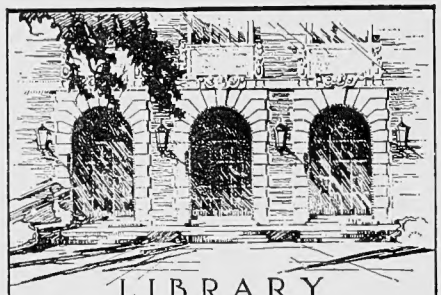

This volume is bound without Stub for 1963

no. 11

which is/are unavailable.

FOR IMMEDIATE RELEASE April 22, 1960

INSECT SURVEY BULLETIN NO. 1

This is the first in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture, and cooperating agencies. It is designed to forewarn people of Illinois of impending changes in insect activity and suggests abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

General conditions: Insect activity this spring is a little later than usual. With a few more days of warm weather, however, insects will become more numerous and damage may appear.

Clover leaf weevils: Small green worms with white to yellow stripes down their backs feed on the leaves of clover at night, hiding in debris on the ground during the day. The number varies from field to field, but in general the population is greater this year than last. Many of the worms are still quite small and their feeding is just now beginning to show. If growing conditions continue to be favorable, the clover plants will grow away from the damage. However, with several cool days and poor growing conditions, damage would become apparent. Right now it is a rare field that will require an insecticide application. If control is required, use 1 1/2 pounds of methoxychlor or 1/4 pound of lindane per acre. Do not apply lindane within 30 days of pasture or harvest, or methoxychlor within one week.

Pea aphids: This pest is now appearing on alfalfa in southern Illinois. If insecticide is required, the need should be apparent within a week. Use 1 pound of malathion, 1/4 pound of parathion or phosdrin, or 1/8 pound of demeton per acre. Allow one week between treatment and harvest when using malathion, 1 day with phosdrin, 15 days with parathion, and 21 days with demeton. Only one application of demeton can be made per cutting. Demeton, parathion and phosdrin should be applied only by an applicator experienced in handling toxic organic phosphates.

Spittle bugs: Hatch of overwintering eggs has started as far north as Champaign. In northern Illinois, where the greatest population occurs, hatching will probably not start for about one week.

Corn soil insects: Applications of aldrin or heptachlor at or prior to planting of corn are generally recommended. Broadcast applications at 1 1/2 pounds of insecticide per acre, disked in immediately, provide more consistent control than row treatments of one pound per acre at planting. However, with average insect infestations, row treatments have been highly satisfactory.

Cankerworms: These worms will be hatching soon and stripping elms as the first leaves appear. An application of spray containing either 4 pounds of lead arsenate or 1 pound of actual DDT per 100 gallons of water will control them.

Clover mites: These tiny red mites are now making their appearance. Pyrethrin sprays indoors are the best control method. For outside applications, spray heavily with Aramite or chlorobenzilate at 1/4 pound in 3 gallons of water or 2 tablespoons of emulsifiable Kelthane in 3 gallons of water. Spray the foundation, the side of the house to window height, and the soil for 2 feet around the foundation. As a preventive control measure, spade an 18-inch border around the house, and plant flowers or shrubs. Very few clover mites will migrate farther than that unless grass or clover is present.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but also will eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:bb
4/22/60

In7

FOR IMMEDIATE RELEASE April 29, 1960

INSECT SURVEY BULLETIN NO. 2

This is the second in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture, and cooperating agencies. It is designed to forewarn people of Illinois of impending changes in insect activity and suggests abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Spittlebugs: Tiny spittlebugs that overwintered as eggs are now appearing in legume fields in northern Illinois. With hatch of overwintering eggs just starting this week, no estimates can be made as to the final population. However, the heaviest infestation is expected to be in the area north of a line from Whiteside to DuPage counties. If insecticides are to be used for control, apply them this week and probably no later than May 10. An average minimum population of 1 spittlebug nymph per stem is required before insecticides are advised. Even with this number, only about 250 to 300 pounds of dry hay per acre will be saved. Higher numbers of bugs will have greater effect on hay production.

One-fourth pound of lindane or one pound of methoxychlor controls spittlebugs. Do not apply lindane within 30 days of harvest or pasture, or methoxychlor within 1 week of harvest or pasture.

Clover leaf weevils: Populations of this insect vary considerably but even in fields of high populations, the clover seems to be growing away from their leaf feeding, and with favorable growing conditions, only a very occasional field will suffer any damage.

Pea aphids: Populations are increasing in the southern one-third of Illinois. Observe off-color and slow growing alfalfa. If aphids are packing on the new growth, apply 1 pound of malathion, 1/4 pound of parathion or phosdrin, or 1/8 pound of demeton per acre before the plants wilt and the leaves curl. Allow one week between treatment and harvest when using malathion, 1 day with phosdrin, 15 days with parathion, and 21 days with demeton. Only one application of demeton can be made per cutting. Demeton, parathion, and phosdrin should be applied only by an applicator experienced in handling toxic organic phosphates.

Cutworms: With reports of occasional cutworms appearing in early corn in southern Illinois, and with the black cutworm experience in 1959, consideration should be given to use of soil insecticides. Broadcast 1 1/2 pounds of aldrin or heptachlor per acre and disk it in immediately. This application can be made any time before corn is planted. Row applications of insecticides at planting did not control black cutworms satisfactorily last year.

Corn borers: Despite weather conditions, this pest survived the winter as successfully as in the past and seems to be more abundant in corn stalks than in previous years. Close observations will be made on the progress of this pest for the next several weeks.

Sweet clover weevils: These snout beetles that often destroy spring seedings of sweet clover are present in numbers. Apply 1/4 pound of actual dieldrin or 1/2 pound of actual heptachlor per acre in granular form at, or shortly after, seeding. This aids in preventing damage.

Insecticides can also be applied after the damage begins, but timing is critical. Apply 1 1/2 pounds of DDT per acre when 50% of the leaf surface of the plants have been eaten. Do not feed the small grain straw to livestock.

Sawfly leaf miner on hawthorne: The adult sawflies are now swarming about the host trees in great numbers laying their eggs. These eggs will hatch in a few days, and the young larvae will feed between the leaf tissues causing great numbers of the leaves to turn brown and die.

Prevent damage to varieties of cockspur hawthorne and the English morello cherry by spraying with emulsifiable concentrates of dieldrin, lindane, or aldrin. Use one quart of the emulsifiable concentrate per 100 gallons of water or 6 tablespoons per 5 gallons of water.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but also will eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

In7

FOR IMMEDIATE RELEASE May 6, 1960

INSECT SURVEY BULLETIN NO. 3

This is the third in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture, and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and suggests abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Spittlebugs: Hatch of overwintering eggs has progressed during the week in northern Illinois, where this insect is expected to be the most numerous. The optimum period for control of this insect with insecticides will be the week of May 9. After this, results will be less satisfactory and residues more of a problem. To warrant the expense, there should be an average of at least one spittlebug nymph per stem. Even with this number, only about 250 to 300 pounds of dry hay per acre will be saved. Higher numbers of bugs will reduce yields more.

One-fourth pound of lindane or one pounds of methoxychlor controls spittlebugs. Do not apply lindane within 30 days of harvest or pasture, or methoxychlor within 1 week of harvest or pasture.

Clover leaf weevils: Populations of this insect vary considerably, but even in fields of high populations in the south half of the state, the clover seems to be growing away from the damage. In the north half of the state, an occasional field is still being damaged, but with favorable growing conditions even the more heavily infested fields should recuperate reasonably well. It is probably too late for these fields to profit from control measures.

Pea aphids: These insects are quite abundant in some alfalfa fields in southern Illinois, but in most instances damage is not apparent. They are beginning to appear in small numbers in northern Illinois. Since alfalfa will be harvested in 10 days or so in the southern area, the expense of control is questionable. Lady beetles, lady beetle larvae, wasp parasites and fungus disease are beginning to kill aphids. Humid,warm weather would be favorable for these natural enemies of aphids.

If insecticide applications should be required, apply 1 pound of malathion, 1/4 pound of parathion, 1/4 pound of phosdrin or 1/8 pound of demeton. Allow one week between treatment and harvest when using malathion, 1 day with phosdrin, 15 days with parathion and 21 days with demeton, which should be applied only once per cutting. Parathion, demeton and phosdrin should be applied only by an applicator experienced in handling toxic organic phosphates.

Soil insecticides: After corn is planted, it is difficult to control wireworms, cutworms, grubs and other insects feeding on the corn plant below the soil surface. If aldrin or heptachlor is to be used, apply now. Broadcast 1 1/2 pounds of aldrin or heptachlor per acre, and disk it in immediately. This application can be made any time before corn is planted. Row applications of 1 pound of the insecticide per acre at planting did not control black cutworms or grape colaspis satisfactorily last year, but did provide good protection against the other insects in the soil.

Face flies: This livestock pest appeared in Illinois for the first time in July 1959 and was collected from the faces of cattle in central Illinois this week. Although numbers were low, it is likely that the fly will be a pest by mid-June, if

not earlier. Control experiments in 1959 with baits used on the foreheads of dairy cattle appeared promising and may soon be recommended.

Elm leaf beetles: These insects may soon appear in southern Illinois. Elm leaves will be skeletonized by small, dirty, yellow to black, ugly, spiny larvae. This pest is particularly severe on Chinese elms. To control them, use 4 to 6 pounds of lead arsenate, 2 pounds of 50 percent wettable DDT powder or 2 quarts of 25 percent DDT emulsifiable concentrate per 100 gallons of water as a spray.

Eastern tent caterpillars: This insect is now building nests in the forks of wild cherry trees along roadsides. It also attacks some fruit trees. Lead arsenate sprays aid in reducing numbers when control is necessary.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but also will eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:mfb
5/6/60

In7

FOR IMMEDIATE RELEASE May 13, 1960

INSECT SURVEY BULLETIN NO. 4

This is the fourth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture, and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and suggests abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

General conditions: Most insects have been inactive or nearly so during the cold weather of the past week. The situation has not changed materially since last week. However, some species continue to feed and reproduce during cold weather. With these insects and with retarded plant growth, damage becomes more apparent.

Clover leaf weevils and pea aphids: Feeding by green clover leaf weevil larvae is probably more prominent than it was a week ago. However, the value of controlling this insect alone is now questionable. With warmer weather and with moisture, a fungus disease of the weevil will aid in control, and clover and alfalfa will grow away from the damage.

However, fields with mild to severe infestations of both pea aphids and weevils may present a problem. Parasites, predators like lady beetles, and a fungus disease of aphids do not increase during cold weather, but the aphids continue to feed and reproduce. The conditions in a few fields of alfalfa and clovers this spring may parallel the 1953 situation, when spring growth was also retarded by cold weather. Then clover leaf weevil seriously defoliated plants, and heavy infestations of pea aphids developed, killing the already-weakened plants. Many fields were affected over a wide area of the state. However, if a similar situation occurs this spring, it will involve only occasional fields.

If control is necessary, apply 1/4 pound of lindane per acre, but not within 28 days of harvest or pasture. One pound of malathion may be used to within one week of harvest. Neither insecticide is completely effective at temperatures lower than 60 degrees.

Seed corn maggot and other soil insects: Cool, damp weather is favorable for this insect. It attacks a variety of seeds and, on occasion in the past, has seriously affected germination of soybeans, corn, and garden beans. These maggots will be likely to damage the germination of already planted corn, and stands will be decreased accordingly. It is now too late to do anything about this corn. An application of 1 1/2 pounds of aldrin or heptachlor broadcast and disked in prior to planting will be profitable on fields yet to be planted. This treatment will also control wireworms and other early-season underground feeders over longer periods when the weather and soil remain cool. Applying a soil insecticide will also help to prevent damage by the black cutworm that may occur in late May or early June.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but also will eliminate insecticide residue hazards.

NOT FOR PUBLICATION - Special note to farm advisers and assistant farm advisers: 4-H members will soon begin making their summer project plans. Members enrolled in the entomology project can obtain a free packet of 50 insect pins by

writing to Stevenson Moore, 280 Natural Resources Building, Urbana, Illinois. Be sure to obtain a supply of the new 4-H Entomology Record Book (BP-23), which also contains cut-out labels for collections. In addition, insect mounting boxes can be purchased by members. Refer to the recent mimeograph on this subject for address and price.

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HBP:rb
5/13/60

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FOR IMMEDIATE RELEASE May 20, 1960

INSECT SURVEY BULLETIN NO. 5

This is the fifth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture, and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and suggests abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

General conditions: White, seared-appearing leaves on alfalfa plants are the result of frost injury several days ago, and not insect attack. Actually, insect activity has been retarded this week by cool weather and rain.

Spittle bugs: Populations this week varied from 20 to 200 per 100 stems of clover and alfalfa in northern Illinois. It is almost too late to get excellent control now, but practical control may still be obtained with 1 pound of methoxychlor per acre. Do not apply within one week of pasture or harvest.

Clover leaf weevil: Leaf feeding by these insects is apparent now on clover, but the larvae that did the damage are nearly mature. In addition, a fungus disease is beginning to kill many of the larvae.

Pea aphids: These aphids are becoming common on red clover as well as alfalfa. However, there was no visible damage this week. Lady beetles and their larvae, both feeding on aphids, are becoming more plentiful and are helping to hold aphids in check. A fungus disease is also killing many of these aphids. Muggy weather favors this disease. Thus we are not anticipating any large-scale damage from these insects.

Lesser clover leaf weevil: These tiny worms are now common throughout Illinois and are burrowing in stems and heads of clovers. No control measures are known.

Corn borer: Pupation of overwintering borers has begun in central and north-central Illinois. First moth emergence will probably occur in about three weeks.

Soil insecticides for corn: Many people are asking whether the use of soil insecticide, aldrin or heptachlor, is justified with the delayed planting of corn that is occurring. Soil temperatures are low and soil insect activity will not increase until soil temperatures rise. We recommend the use of soil insecticides even on later planted corn.

Bagworms: These insects will soon be hatching in the southern third of the state. After hatch is complete, apply a spray made with 2 teaspoons of the 57% malathion concentrate, 3 teaspoons of 60% toxaphene, or 1 tablespoon of lead arsenate per gallon of water. A second application two weeks later may be needed.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but also will eliminate insecticide residue hazards.

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HBP:bb
5/20/60

In7

FOR IMMEDIATE RELEASE May 27, 1960

INSECT SURVEY BULLETIN NO. 6

This is the sixth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture, and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and suggests abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Spittle bugs: Masses of froth covering one or more nymphs are now apparent throughout the northern one-third of Illinois. In most fields it is too late to apply insecticides profitably, since the luxuriant foliage prevents penetration of the spray and control will be poor. Control in thin or slow-growing fields may still be profitable if there is an average of one or more nymphs per stem. Use 1 pound of methoxychlor per acre, but not within one week of cutting or pasture.

Pea aphids: Both adults and larvae of lady beetles are feeding on this pest. In addition, the muggy weather has helped to spread a fungus disease that is killing aphids. The need for chemical control is not likely.

Corn borers: Pupation of overwintering borers increased rapidly this week, varying from 50 percent in the northern half of Illinois to 100 percent with a trace of moth emergence in the southern half. Corn that was up prior to May 25 in the area north of a line from St. Louis to Kankakee should be watched for signs of borer infestations during the latter part of June.

Black cutworms: Moth flight has been greater this year than in the past in some areas of the state. Exact predictions are impossible, but watch low spots in corn fields during the next two to three weeks. If cutting starts, examine the area for cutworms, and apply 1/2 pound of dieldrin or 3 pounds of heptachlor per acre if needed. Direct the spray onto the soil and the base of the plants.

Fields on which 1 1/2 pounds of aldrin or heptachlor were broadcast prior to planting should have little if any damage, but fields with 1 pound per acre as row treatment may not be protected against cutworms.

Armyworms: Moth flights have been observed, but no serious worm infestations have yet been found. Watch thick, luxuriant stands of grains and grasses during the next few weeks. Cool weather favors this insect.

Flea beetles: A few early corn fields in the southern third of Illinois are being damaged by these insects. Corn leaves have tiny white strips showing on the leaves. Heavily damaged leaves turn brown. The beetles jump from the leaves when disturbed, making them difficult to find. If damage is developing to the point of killing plants, apply 1 1/2 pounds of DDT of 1/4 pound of dieldrin per acre over the row.

Sawflies: A sawfly usually found only in small numbers in grain fields, is abundant this year. It is a drab yellow worm with false legs on each segment of the abdomen. These worms feed on the ends of the leaves, cutting off the tips. No commercial damage has been noted, and control measures are not recommended.

Another species of sawfly is damaging strawberry leaves. Rotenone or malathion will provide practical control for the home gardener. Follow label directions.

Yellow spots in oat fields: Bacterial infection is causing yellow spots to appear in oat fields. Although it resembles damage by greenbugs and yellow dwarf, it is entirely different. No greenbugs have been observed in Illinois thus far.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but also will eliminate insecticide residue hazards.

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5/27/60

In7

FOR IMMEDIATE RELEASE JUN 1960 June 3, 1960

INSECT SURVEY BULLETIN NO. 7

This is the seventh in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Sawflies: These drab yellow to grey worms with prolegs on each segment of the abdomen are common in small grain fields and are still being mistaken for armyworms, which often appear in grain and grass fields at this time of year. Armyworms have only four sets of prolegs on the abdomen and are brown or green with orange and white longitudinal stripes on the body. Control of sawflies is not necessary.

Armyworms: Moth flights have been observed, but no serious worm infestations have yet been found. Newly hatched worms were observed in fields this week. Watch thick, luxuriant stands of grains and grasses during the next few weeks. Cool weather favors this insect.

Black cutworms: Watch low spots in corn fields during the next two to three weeks for damage by these worms. This has been an ideal year for them. If cutting starts, examine the soil around damaged plants for cutworms. Apply 1/2 pound of dieldrin, 3 pounds of toxaphene or 1/4 pound of endrin per acre if needed. Direct the spray onto the soil at the base of the plants.

Chinch bugs: Thin stands of oats in central Illinois may develop moderate infestations of chinch bugs during the next two or three weeks. Examine dead and dying spots in the stands of small grains for evidence of these pests. If infestations are heavy, be prepared to apply 1/2 pound of dieldrin on the edge of the grain field to prevent migrations to corn. The grain can be harvested one week after treatment.

Sod webworms: Plants may be cut off, but leaf damage and stalk damage may also occur. The grey worm with black spots that is doing the damage is hidden in a nest of webbing and dirt; it is found only by carefully sifting the soil. One to 1 1/2 pounds of DDT per acre applied as a spray at the base of the plants will help control webworms.

Corn borers: Pupation of overwintering borers is complete in central and southern Illinois. Moths have begun to emerge in these areas. Peak emergence should occur from June 6 to 20, with peak egg deposition from June 13 to 27.

In northern Illinois pupation varies from 50 to 90 percent. Emergence is just beginning. Peak flight should occur between June 13 and 27, with peak egg-laying taking place between June 15 and July 1. Temperature and rainfall will affect emergence and egg-laying.

Particularly advanced fields of field corn in the area north of a line from St. Louis to Kankakee should be observed carefully during peak egg-laying and hatching. These fields may profit from treatment.

Bagworms: These pests should now be hatching in central Illinois and will soon be hatching in northern Illinois. After hatch is complete and while worms are

still small, apply a spray made with 2 teaspoons of the 57% malathion concentrate, 3 teaspoons of 60% toxaphene, or 1 tablespoon of lead arsenate per gallon of water. A second application two weeks later may be needed.

Elm leaf beetle: In some areas elm leaves are being skeletonized by small, ugly, yellow to black, spiny larvae. This pest is particularly severe on Chinese elms. To control them, use 4 to 6 pounds of lead arsenate, 2 pounds of 50 percent wettable DDT powder or 2 quarts of 25 percent DDT emulsifiable concentrate per 100 gallons of water as a spray.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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HBP:mfb
6/3/60

In7

FOR IMMEDIATE RELEASE June 10, 1960

INSECT SURVEY BULLETIN NO. 8

This is the eighth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borer: Pupation of overwintering borers is complete throughout the state. Emergence is complete, or nearly so, in southern Illinois, and egg-laying is practically complete.

Emergence in central Illinois between Highway 36 and Highway 6 varies from 75% in the west and south to 25% in the north and east. In this area peak moth flight will range from June 10 to 25, with peak egg-laying and hatch from June 15 to 30. Where needed on field corn, insecticides probably should be applied between June 20 in the southwestern part of this area and early July in the northeastern part.

Emergence in the area north of Highway 6 varies from 0 to 25%. Peak moth flight is expected June 15 to 30, with peak egg-laying between June 20 and early July. Where needed on field corn, insecticides probably should be applied in the last few days of June and early July.

The above dates are approximations and may vary a few days, depending upon weather conditions. In general, most advanced fields in the area north of a line from St. Louis to Kankakee should be checked every few days during the period of egg-laying. Egg-laying this year could very well be concentrated in about 5% of the corn crop.

DDT is still the generally recommended insecticide at 1 1/2 pounds per acre in the form of granules or sprays. It is usually not profitable to apply insecticides to corn for ensilage purposes; but if it is to be treated, endrin is recommended in place of DDT.

Armyworms: These insects have appeared in rank growth of wheat in southwestern and western Illinois. They have been controlled readily with 1/4 pound of dieldrin or 1 1/2 pounds of toxaphene; either one does a good job, but results are not complete until 4 days after treatment. Do not harvest grain until 7 days after treatment.

Black cutworms: A few reports of these pests have been received. Low spots in corn fields are usually attacked first; then the worms migrate out of these spots, cutting corn as they go. Apply 1/2 pound of dieldrin, 1/4 pound of endrin, or 3 pounds of toxaphene per acre when damage first appears and before worms are full-grown. To insure the quickest and best kill, direct the spray at the base of the plants onto the soil, and use as much water per acre as possible. Immediate cultivation, throwing dirt around the plants, will also help in control.

Other corn soil insects: Grape colaspis, tiny white worms that feed on the root hairs of corn and soybeans following clover or two years of soybeans, are appearing in central and south-central Illinois. Plants are stunted, turn purple or yellow and may die. The worm is white, grub-shaped and about the size of a large comma. Early-planted fields are usually damaged more than the later planted

fields. These insects will mature within the next two weeks, and damage will cease. Ordinarily, the plants recuperate reasonably well from this damage. Wireworms are also being reported. They attack seeds and later drill holes into the base of plants, killing them.

Little can be done to control these insects now. Soil treatments with aldrin or heptachlor prior to or at planting provide protection.

Wind damage: Severe winds have whipped and frayed corn plants. Sand or fine dirt has blasted the leaves until they are white, and tap roots have been broken, allowing the plant to tip over. With moisture the plants will recuperate. Insects are not involved.

Hessian fly: A spring generation has developed from flies that wintered in early-planted wheat. This spring infestation is reported to be severe in some areas.

Face flies: This new fly that clusters about the eyes and nostrils of cattle is becoming more numerous and apparently will be quite noticeable by early to mid-July. At present the only recommended control is to apply repellents and pyrethrins to the head of the animal as sprays or specially prepared smears.

Bean leaf beetle: Green, red or yellow beetles with black spots on their backs are feeding on beans. The leaves of plants appear to have been peppered with a shotgun. In cases of damage to the point of plant kill, apply 1/4 pound of dieldrin, 1 1/2 pounds of toxaphene or 1 1/2 pounds of DDT per acre.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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HBP:mfb
6/10/60

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FOR IMMEDIATE RELEASE June 17, 1960

INSECT SURVEY BULLETIN NO. 9

This is the ninth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borer: The cool, wet weather this past week has retarded borer development somewhat. Dead pupae were observed this week. In some cases pupal mortality was as high as 20 percent. It is not known what is causing it or how widespread it is. The last 10-15 percent of the moths that emerge account for most of the damage. Reducing this segment of the first-generation borer population would drastically reduce their importance. Weather during the next 10 days will be very important to corn borer survival.

At present it appears that the heaviest infestations will be in the area north and west of a line from St. Louis to Kankakee. At the present rate of borer development and plant growth, only early fields planted in late April or early May are expected to be affected. Between 1 and 5 percent of the corn fields fall in this category in the threatened area.

Emergence is complete in the area south of Highway 36 and just north of St. Louis. Egg counts in the most advanced fields this week ranged from 15 to 200 per 100 plants. About 20 percent of the eggs had hatched. On the most advanced fields in this area, insecticides should not be applied until June 24 or later.

Emergence is almost complete in central Illinois between Highways 36 and 6, and egg-laying is just starting. Where needed on field corn, insecticides should probably be applied the last week of June and early July.

Emergence in the area north of Highway 6 varies from 10 to 60 percent. Peak moth flight will occur this week, and peak egg-laying will probably occur between June 24 and early July. Treatment probably should not be made in this area until the last few days of June or the first week of July.

To determine the need for treatment, examine 50 to 100 plants for signs of borer feeding on the whorl leaves. If 75 percent or more of the plants show recent whorl feeding, check the tassel ratio. Measure from the base to the tip of the plant with leaves extended. Split the plant lengthwise, and measure from the base of the plant to the tip of the developing tassel. Divide the tassel height by the plant height, and multiply by 100. Take an average of five representative plants per field. This is the tassel ratio. The corn will warrant treatment if the tassel ratio is 30 or above. Treatment after borers have drilled into the stalk proper will not be effective.

DDT is still the insecticide most commonly used for corn borer. Apply 1 1/2 pounds per acre as a spray or 3/4 to 1 pound per acre as granules. When spraying, arrange two or three nozzles over the row to cover the upper 1/3 of the plants, particularly the whorl zone.

Other insecticides approved for use against corn borer include endrin and toxaphene. Ensilage or stover of corn treated with DDT or toxaphene should

not be fed to dairy cattle. Endrin may be used in this case, provided label restrictions are followed.

Black cutworms: These insects continue to be a problem on small corn. With the cool wet weather and large acreage of late-planted corn, conditions are favorable for increased damage. Most of the worms are near the soil surface, and some are feeding just above the ground because of wet conditions. For the next few weeks, observe corn in low spots in fields for signs of cutworm damage. If replanting is necessary, apply 1 pound of dieldrin, 3 pounds of toxaphene or 2 pounds of aldrin or heptachlor per acre before planting the field again. Make a broadcast application, and disk the material into the soil immediately. If stands are still worth saving, apply 1/2 pound of dieldrin, 1/4 pound of endrin or 3 pounds of toxaphene per acre as a band spray directed at the base of the plants. Use as much water per acre as possible, and cultivate immediately, throwing dirt around the base of the plants in order to cover the insecticide. Cultivation may not be needed for good results if the soil is exceptionally wet at the time of treatment.

Fields in the west southwest section and in other areas that have water standing between the rows and are too wet to get through with ground equipment could probably be treated successfully by air if conditions are critical. The same insecticides should be used.

Wireworms: Scattered reports of wireworm damage to corn were received this week. These insects drill holes in the stalk just below ground level. The center of the damaged plant wilts, and often the entire plant dies. If the field is to be replanted, apply 2 pounds of aldrin or heptachlor per acre broadcast, and disk it in immediately. In infested fields that will not be replanted, apply a band spray, use as much water as possible of either insecticide and aim at the base of the plants. Cultivate immediately, throwing as much soil as possible at the base of the plants where the insecticide is deposited.

Armyworms: The weather of this past week has favored armyworm development and retarded the development of diseases and parasites that attack this pest. These insects are appearing in rank growth of wheat and in grass pastures. They are readily controlled in wheat with 1/4 pound of dieldrin or 1 1/2 pounds of toxaphene per acre. Usually it takes 1 to 3 days for results to become apparent. Do not harvest the grain for 7 days after treatment. If treatment becomes necessary in grass pastures to protect the pasture, or to prevent migrations to adjacent corn fields, use 2 pounds of methoxychlor per acre. Methoxychlor will prevent the worms from feeding, even though actual kill is poor. When using methoxychlor, allow 7 days to elapse between treatment and harvest or pasturing.

Bean leaf beetle: Tan, red or green beetles with black spots on their backs are feeding on beans. The leaves show irregular holes. If damage is severe and plants show signs of dying, apply 1/4 pound of dieldrin, 1 1/2 pounds of toxaphene or 1 1/2 pounds of DDT per acre.

Leafhoppers: These tiny wedge-shaped green insects are common in alfalfa fields in a band between a line from Watseka to Quincy and Danville to St. Louis. The nymphs may feed extensively on second-growth alfalfa, stunting the plants and turning the leaves yellow. If adults were especially numerous at first cutting, it may be profitable to apply 1 pound of methoxychlor per acre when the new growth is 4-6 inches tall.

House flies: This is the time to begin action on a house fly control program. Practice good sanitation, followed by residual sprays of Diazinon or ronnel. Supplement the spray applications with a bait treatment of DDVP, Diazinon, Dipterex, malathion or ronnel.

Stored grain insects: With wheat harvest rapidly approaching, take steps now to protect the new wheat from attack. Clean out old grain and other debris from in and around the bin. Apply a bin spray of 1.5% premium grade malathion or 2.5% methoxychlor to the point of run-off. DDT should not be used for this purpose.

Treat the wheat with a premium-grade malathion protective dust or spray at the rates recommended on the label. Anyone planning to store oats or shelled corn for longer than 6-8 weeks would also profit by using this treatment. Treated grain may be fed to livestock or marketed with complete safety.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will eliminate insecticide residue hazards.

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This weekly report was prepared by Steve Moore III, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

SM:mfb
6/17/60

FOR IMMEDIATE RELEASE June 23, 1960

INSECT SURVEY BULLETIN NO. 10

This is the tenth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borer: Cool, rainy weather during this past week has changed the corn borer situation. Some moths undoubtedly were killed by rain and wind. Some eggs were laid on weeds and small grains where no corn was suitable for egg-laying. In other situations moths remained inactive during the cool nights but were laying eggs in the corn fields during cloudy days. Egg-laying will be concentrated in the most advanced fields, and damage may become noticeable within the next few weeks. Observe these most advanced fields regularly during the next two weeks.

In a triangular area from Quincy to Decatur (Highway 36) to St. Louis, 50 to 80 percent of the plants in less than 10 percent of the fields have fresh corn borer feeding on whorl leaves, with 25 to 100 egg masses per 100 plants yet to hatch. Corn in these most advanced fields has just now reached the stage of development where corn borer will begin to survive. This is the week in this area to decide whether or not to treat.

To determine the need for treatment, examine 50 to 100 plants for signs of borer feeding on the whorl leaves. If 75 percent or more of the plants show recent whorl feeding, check the tassel ratio. Measure from the base to the tip of the plants with leaves extended. Split the plant lengthwise, and measure from the base of the plant to the tip of the developing tassel. Divide the tassel height by the plant height and multiply by 100. Take an average of five representative plants per field. This is the tassel ratio. The corn will warrant treatment if the tassel ratio is 30 or above. Treatment after borers have drilled into the stalk proper will not be effective.

In the area from Highway 36 north to about Highway 17, egg-laying is well under way but remains low. Examine the most advanced fields carefully this week. Treatment, where needed, should start about July 1.

North of Highway 17, egg-laying has started and will now progress rapidly; treatment, where needed, should probably start soon after July 1. This may be the area where a few advanced fields could be hit hard.

DDT is still the insecticide most commonly used for corn borer. Apply 1 1/2 pounds per acre as a spray or 3/4 to 1 pound per acre as granules. When spraying, arrange two or three nozzles over the row to cover the uppper one-third of the plants, particularly the whorl zone.

Other insecticides approved for use against corn borer include endrin and toxaphene. Ensilage or stover of corn treated with DDT or toxaphene should not be fed to dairy cattle. Endrin may be used in this case, provided label restrictions are followed.

Black cutworms: Damage to corn is now being reported from most areas of the state and will continue to increase for the next few days. Observe low spots carefully for damage. If stands are still worth saving, apply 1/2 pound of dieldrin,

1/4 pound of endrin or 3 pounds of toxaphene per acre as a band spray, directed at the base of the plants. Use as much water per acre as possible, and cultivate immediately, throwing dirt around the base of the plants to cover the insecticide. Cultivation may not be needed if the soil is exceptionally wet at time of treatment. Fields that are too wet to get through with ground equipment could probably be treated successfully by air if conditions are critical. The same insecticides should be used.

Full-grown cutworms are difficult to kill with insecticides. Applying insecticides after the damage is done and when most of the worms are full grown is a waste of money.

If replanting is necessary, apply 1 pound of dieldrin, 3 pounds of toxaphene or 2 pounds of aldrin or heptachlor per acre before planting the field again. Make a broadcast application, and disk the material into the soil immediately.

Armyworms: Scattered reports of damage continue. Observe rank growths of grain and grasses for the next few days, particularly in the northern one-third to one-half of the state. Armyworms in the southern two-thirds to one-half are mostly mature, and damage will drop off rapidly.

Several reports of rabbit and rodent damage have been received. These pests cut up the straws into even lengths and usually pile them up. Damaged areas a yard or so in diameter are now noticeable in many fields.

Armyworms are readily controlled in grain fields with 1/4 pound of dieldrin or 1 1/2 pounds of toxaphene per acre. Usually it takes 1 to 3 days for results to become apparent. Do not harvest the grain for 7 days after treatment. If treatment becomes necessary in grass pastures to protect the pasture or to prevent migrations to adjacent corn fields, use 2 pounds of methoxychlor per acre. Methoxychlor will prevent the worms from feeding, even though actual kill is poor. When using methoxychlor, allow 7 days to elapse between treatment and harvest or pasturing.

Grasshoppers: These insects are now hatching and are concentrated in fence rows, roadsides, ditch banks and similar areas. Hard beating rains will kill these small hoppers. The effect on the total population can not be determined yet.

Bagworms: In many areas these pests are still small enough to control effectively. Apply a spray made with 2 teaspoons of the 57% malathion concentrate, 3 teaspoons of 60% toxaphene concentrate or 1 tablespoon of lead arsenate per gallon of water.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will eliminate insecticide residue hazards.

Special note to vegetable growers (not for publication): We have received a wire that Sevin is now registered for corn earworm control at 1.5 to 2.0 pounds of active ingredient as 85% sprayable powder per acre. No oil is required. Treated fodder and forage may be fed to dairy and beef cattle 7 days after the last application. There is no time restriction on the ears for market.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:cm
6/24/60

FOR IMMEDIATE RELEASE July 1, 1960

INSECT SURVEY BULLETIN NO. 11

This is the eleventh in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borer: In general, corn borer populations are concentrated in the west half of the state. In a triangular area from Quincy to Decatur to St. Louis, there are a few particularly advanced fields which would profit from treatment. The numbers of fields is less than 1 percent, but these should be treated immediately if they are to be treated at all.

In the area between highway 36 and highway 17, corn borer are still laying a few eggs, but in general, even the more advanced fields apparently will have low borer populations and in only a few of the most advanced fields will it pay to apply insecticides.

In the area north of highway 17, and west of highway 23, 1 to 5 percent of the fields will warrant applications of insecticides. The number of fields that would profit from insecticide treatment varies considerably from one community to another. The fields which are much further along than any other fields in the community have moths concentrating in them and laying eggs. This egg laying, however, should decrease rapidly now. Not only will it pay to control the borers in these fields but with borers concentrated in them, it is an opportunity to reduce the number that will emerge to form a second generation. Treatments in this area should be applied between July 4 and 10, for best control.

To determine the need for treatment, examine 50 to 100 plants for signs of borer feeding on the whorl leaves. If 75 percent or more of the plants show recent whorl feeding, check the tassel ratio. Measure from the base to the tip of the plants with leaves extended. Split the plant lengthwise, and measure from the base of the plant to the tip of the developing tassel. Divide the tassel height by the plant height and multiply by 100. Take an average of five representative plants per field. This is the tassel ratio. The corn will warrant treatment if the tassel ratio is 30 or above. Treatment after borers have drilled into the stalk proper will not be effective.

DDT is still the insecticide most commonly used for corn borer. Apply 1 1/2 pounds per acre as a spray or 3/4 to 1 pound per acre as granules. When spraying, arrange two or three nozzles over the row to cover the upper one-third of the plants, particularly the whorl zone.

Other insecticides approved for use against corn borer include endrin and toxaphene. Ensilage or stover of corn treated with DDT or toxaphene should not be fed to dairy cattle. Endrin may be used in this case, provided label restrictions are followed.

Black cutworms: Damage reports continue to come in, but the heaviest concentrations of this pest seem to have been along the west side of the state. Moderate infestations have occurred in the southeast and extreme north.

Under normal conditions there would not be another generation of these pests in corn this year. But most people would not consider this a normal year. In about two weeks cutworm moth flight is expected, and these moths may deposit eggs in some of the water spots in corn fields. No one actually knows whether this will occur, but with continued rains and cool weather it is a distinct possibility that we may have a severe cutworm problem in July. Therefore, watch low spots, particularly in late planted cornfields for possible cutworm damage, if weather continues unseasonably cool and wet.

Armyworms: During the next few weeks watch for this pest in luxuriant and lodged areas in oats, timothy, and other grassy fields in the northern one-third of Illinois. Some small worms are now present, and moths are flying in large numbers. Armyworms are readily controlled in grain fields with 1/4 pound of dieldrin or 1 1/2 pounds of toxaphene per acre. Usually it takes 1 to 3 days for results to become apparent. Do not harvest the grain for 7 days after treatment. If treatment becomes necessary in grass pastures to protect the pasture or to prevent migrations to adjacent corn fields, use 2 pounds of methoxychlor per acre. Methoxychlor will prevent the worms from feeding, even though actual kill is poor. When using methoxychlor, allow 7 days to elapse between treatment and harvest or pasturing.

Grape colaspis: Spots of stunted purple corn are showing in cornfields on clover sods particularly in the northern one-third of Illinois. In many of these instances grape colaspis larvae have been feeding on the roots. The larvae are mature and are pupating, thus the corn should soon begin to recuperate from their root pruning.

Hessian fly: This pest is more numerous in western and southwestern Illinois than for several years in the past. They are now in the flaxseed or pupal stage and will emerge this fall to deposit eggs on early seeded wheat. High fall populations can be expected.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:mfb
7/1/60

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FOR IMMEDIATE RELEASE July 8, 1960

INSECT SURVEY BULLETIN NO. 12

This is the twelfth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borer: It is too late for the best results with insecticides in Illinois except in the northern two to three tiers of counties. Where needed, treatments can still be applied in this area for the next few days.

To determine need for treatment, examine 50 to 100 plants for signs of borer feeding on the whorl leaves. If 75 percent or more of the plants show recent whorl feeding, check the tassel ratio. Measure from the base to the tip of the plants with leaves extended. Split the plant lengthwise and measure from the base of the plant to the tip of the developing tassel. Divide tassel height by plant height and multiply by 100. Take an average of five representative plants per field. This is the tassel ratio. The corn will warrant treatment if the tassel ratio is 30 or above. Treatment after borers have drilled into the stalk proper will not be effective.

DDT is still the insecticide most commonly used for corn borer. Apply 1 1/2 pounds per acre as a spray or 3/4 to 1 pound per acre as granules. When spraying, arrange two or three nozzles over the row to cover the upper one-third of the plants, particularly the whorl zone. Do not apply DDT to ensilage or stover to be fed to cattle.

Chinch bugs: There are a few isolated cases of chinch bug migrations from small grain to corn. If control is necessary, apply 1/2 pound of dieldrin per acre. If chinch bugs are still present in the small grain field, apply dieldrin to a 2-rod strip into the grain field. Do not harvest the grain until 7 days after treatment, and do not use the straw for feed until 30 days after treatment.

Grasshoppers: Small 'hoppers are concentrated in fence rows, ditch banks, roadsides and similar areas. Although luxuriant foliage in these areas may hold the grasshoppers, they can be easily controlled now with 1/4 pound of dieldrin or 1 1/2 pounds of toxaphene per acre. Do not graze dairy cattle on the sprayed areas.

Stable flies: These blood-sucking flies decrease milk production more than any of the other flies. Since they breed in rotting straw and similar wet, decaying vegetation, we may expect a heavier than normal infestation this year. Sprays of pyrethrins with either tabatrex or R-326 as repellents will prevent most of the losses caused by these pests.

Face flies: This new pest of cattle has increased slightly during the past two weeks and is expected to increase for the rest of the summer. At present, the spray used for stable flies can be used for control. It should be used particularly around the head, or as a smear on the head. A bait developed by the Natural History Survey may soon have label clearance.

House flies: This insect will multiply rapidly and become a nuisance if the weather becomes warm. Practice good sanitation and follow with residual wall

and ceiling sprays of diazinon or ronnel. Supplement the spray applications with a bait treatment of DDVP, diazinon, Dypterex, malathion or ronnel. Follow label directions and precautions.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:mfb
7/8/60

FOR IMMEDIATE RELEASE July 14, 1960

INSECT SURVEY BULLETIN NO. 13

This is the thirteenth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Grasshoppers: Moderate numbers of very small to one-third-grown grasshoppers are present in fence rows, ditch banks, roadsides and similar areas. The beginning of grasshopper migrations into soybeans and corn was observed this week. There may also be a few cases of damage to legume seedings in small grains. The situation is not yet alarming, but in some instances it warrants attention.

One-fourth pound of dieldrin or 1 1/2 pounds of toxaphene should now be applied in locations where grasshoppers are concentrated. They can be controlled more easily now than after they migrate to a larger area. If dairy pastures or forage must be sprayed, use 1 pound of malathion, but do not pasture or harvest for 7 days after application. Toxaphene may be used on forage crops to be fed to non-dairy animals, provided they are removed from treated forage 6 weeks before slaughter.

Leafhoppers: Populations of these green, tiny, wedge-shaped insects have built up in numbers in the southern half to one-third of Illinois. They suck sap from alfalfa plants, causing them to be stunted and turn purplish-yellow. Third-cutting alfalfa in northern Illinois could be damaged in quality if these insect migrate northward, as they usually do. Jar plants over a white paper or plate; if several insects are present, you may want to apply 1 pound of methoxychlor per acre, but not within one week of harvest.

Face flies: Populations of this fly, which cluster around the eyes and noses of cattle, increased noticeably this week in the north half of Illinois. Fly counts on herds of dairy and beef cattle on pasture ranged from 2 to 25 per head, with an average of 8. Continued hot weather should bring a greater build-up of these flies. Make counts on animals while they are on pasture, between the hours of 10 a.m. and 4 p.m. Many of those examined had watering eyes and were obviously being bothered by the flies. Herds were bunched up and were twitching their ears and shaking and rubbing their heads instead of grazing.

For control of these flies on dairy cattle, apply daily, to the animal's head, repellent sprays containing tabatrex or R-326 in combination with pyrethrins. Special face-fly-repellent sprays containing these materials are available and may be used. About 60 to 70 percent reduction in the fly population can be expected with these materials.

For beef cattle, use a backrubber containing either 5 percent DDT or toxaphene in oil. Success with backrubbers will depend on whether the animals can smear a liberal supply of the chemical on their heads. Backrubbers constructed with an outer layer of canvas, burlap or cloth, as opposed to metal, would be best for this purpose. Allow 30 days to elapse between this treatment and slaughter of the animals.

Common stalk borer: These brownish-white worms with a distinct purple area around the middle of their bodies, tunnel in the stalks of oats and corn. The unfolding leaves of corn plants often show irregular holes where the worms have fed. The heads of oat plants turn white prematurely in areas in the field. Feeding occurs most frequently in border rows and rows adjacent to areas that have a weed problem.

Damage from this pest is usually of little consequence. By the time the damage is observed, chemicals will not be effective. In areas where the pest is known to be present each year, it is wise to keep weeds under control, especially during August and September.

Armyworms: During the next few weeks, watch for this pest in luxuriant and lodged areas in oats, timothy and other grassy fields in the northern half of Illinois. Some small worms are now present, and moths are flying in large numbers. Armyworms are readily controlled in grain fields with 1/4 pound of dieldrin or 1 1/2 pounds of toxaphene per acre. Usually it takes 1 to 3 days for results to become apparent. Do not harvest the grain for 7 days after treatment. If treatment becomes necessary in grass pasture to protect the pasture or to prevent migrations to adjacent corn fields, use 2 pounds of methoxychlor per acre. Methoxychlor will prevent the worms from feeding, even though actual kill is poor. When using methoxychlor, allow 7 days to elapse between treatment and harvest or pasturing.

Picnic beetles: These shiny black beetles about 1/4 inch long with four yellow spots on their back are appearing in large numbers around the farm, home and garden. They are scavengers feeding on fruits, vegetables and decaying materials. They particularly like tomatoes, over-ripe fruits, and ears of corn. Home gardeners should use malathion for control in vegetable and fruit crops. Follow the manufacturer's directions on the container.

Special Note to Vegetable Growers: Small brown sap beetles are appearing in sweet corn fields that have been damaged by corn earworm and corn borer. Where beetles are present, apply 1/2 pound of parathion or 1 pound of malathion per acre, using proper handling procedures.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will eliminate insecticide residue hazards.

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This weekly report was prepared by Steve Moore III, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

FOR IMMEDIATE RELEASE July 22, 1960

INSECT SURVEY BULLETIN NO. 14

This is the fourteenth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Grasshoppers: Grasshoppers are still in fence rows and ditch banks, where they hatched, but may soon migrate to and damage border rows of soybeans and corn. This damage will be most noticeable in southeastern Illinois and the northern third of the state. The 'hoppers can be controlled better now than after they have migrated to cultivated crops. Apply 1/4 pound of dieldrin or 1 1/2 pounds of toxaphene per acre. If dairy pasture or forage must be sprayed, use 1 pound of malathion, but do not pasture or harvest for 7 days after application. Toxaphene may be used on forage crops to be fed to non-dairy animals, and no preslaughter period is required unless the animals are sprayed with toxaphene to control external parasites, such as lice, flies and mites. If they are sprayed with toxaphene, there must be a 6-week interval between spraying and slaughter.

Corn borers: Ten percent of the fields of field corn surveyed in a triangular area from Quincy to Decatur to St. Louis had first-generation corn borer populations of more than one per stalk. Pupation of this first generation averages 5 percent in this area and will increase rapidly during the next two weeks. Moth flight and egg-laying for the second generation will begin in about two weeks and extend over a period of 2 to 3 weeks. Pupation has not begun yet in northern Illinois but should begin within the next week.

In general, corn borer populations may increase noticeably this year over last. Furthermore, the damage to late fields from second-generation borers will be more severe than last year. Because the corn is less mature, the damage will resemble that of the first generation. The borers will bore into the stalk during ear formation, causing smaller as well as chaffy ears.

Examine late fields of corn from August 1 in central and south-central Illinois to August 20 in the north. If eggs are numerous--one or more per plant--apply DDT at 1 1/2 pounds per acre as a spray or 1 pound per acre as granules. Do not apply to corn to be used for ensilage or stover. Endrin can be applied to ensilage corn to within 45 days of harvest.

Corn leaf aphid: This pest is just now appearing in tassels in the earliest fields. It is usually most damaging in the late fields. If a population build-up occurs, some control may be warranted. At what stage of development this aphid actually damages the corn is not known, but the damage probably occurs during the pretassel to early tassel stage. In severe infestations, apply 1 pound of malathion per acre. Since effect of aphid control on yield is not known, this treatment should be tried only on a small scale, and accurate yield records should be taken. One-fourth pound of parathion or phosdrin may be applied, but only by operators experienced in handling and applying them. One day should elapse between applications of phosdrin and harvest, 7 days with malathion, and 15 days with parathion.

Face flies: This new pest of cattle is expected to increase from now until fall. To control these flies on dairy cattle, apply daily, to the animal's

head, repellent sprays containing tabatrex or R-326 in combination with pyrethrins. Special face-fly-repellent sprays containing these materials are available and may be used. About 60 to 70 percent reduction in the fly population can be expected with these materials.

For beef cattle, use a backrubber containing either 5 percent DDT or toxaphene in oil. Success with backrubbers will depend on whether the animals can smear a liberal supply of the chemical on their heads. Backrubbers constructed with an outer layer of canvas, burlap or cloth, as opposed to metal, would be best for this purpose. Allow 30 days to elapse between this treatment and slaughter of the animals.

Picnic beetles: This shiny beetle is about 1/4 inch long with four yellow spots on its back. These beetles are appearing in large numbers around the farm, home and garden. They are scavengers feeding on fruits, vegetables and decaying materials. They particularly like tomatoes, over-ripe fruits and ears of corn. Home gardeners should use malathion for control in vegetable and fruit crops. Follow the manufacturer's directions on the container.

Special Note to Vegetable Growers: Small brown sap beetles are appearing in sweet corn fields that have been damaged by corn earworm and corn borer. Where beetles are present, apply 1/2 pound of parathion or 1 pound of malathion per acre, using proper procedures.

Watch for corn borer egg-laying to start about August 1 in central Illinois and by August 10 in northern Illinois. Second-generation corn borer numbers may increase noticeably over last year.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:mfb
7/22/60

FOR IMMEDIATE RELEASE July 29, 1960

INSECT SURVEY BULLETIN NO. 15

This is the fifteenth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Face flies: A face fly bait, DDVP, in a mixture of 75% corn sirup and 25% water, has been approved for daily application to the foreheads of cattle, including dairy cattle. Label approval is based on use of 0.2% DDVP. Each application is to be made with a single six-inch stroke of a small paint brush. This method is the result of research conducted by W. N. Bruce of the Illinois Natural History Survey. Morning applications of the bait are recommended daily for a two-week period, followed by other applications as needed. When the face flies feed on the bait, the population is soon reduced to non-economic levels. Products conforming to this label are or soon will be on the market.

Corn leaf aphid: This pest is now present in tassels in the earliest fields of corn. However, it usually does the most damage to late corn. Zero to 25 percent of the tassels in the early fields are moderately infested. In addition, infestations in sorghum have been reported. Normally this pest will increase and will probably migrate to the later fields. Sorghum may also be infested and damaged more than corn. At what stage of development this aphid actually damages the corn is not known, but the damage probably occurs during the pretassel to early tassel stage. This is also true of sorghums.

In severe infestations to corn, apply 1 pound of malathion per acre. Since effect of aphid control on yield is not known, this treatment should be tried only on a small scale, and accurate yield records should be taken. One-fourth pound of parathion or phosdrin may be applied, but only by operators experienced in handling and applying them. One day should elapse between applications of phosdrin and harvest, 7 days with malathion, and 15 days with parathion. These materials should be applied to sorghums in the early boot stage. Allow three days to elapse between application of phosdrin and harvest, 7 days with malathion, and 21 days with parathion.

Armyworms and black cutworms: Large numbers of these moths have been flying for the past few weeks. Grassy areas may be infested, but the high temperatures of the past week should help to reduce the numbers of those worms.

Fall armyworms: This pest may attack exceptionally late corn. A few egg masses have already been observed. The worms feed deep in the whorl, and the feeding becomes apparent as the leaves emerge. Usually the worms are found in several stalks in small spots in the field. One and one-half pounds of toxaphene or 1/4 pound of dieldrin as granules will give moderate control but should be applied only to fields where worms are actually killing the heart of the corn plant. Do not apply within 40 days of harvest. Do not apply to ensilage corn to be fed to dairy cattle. Follow restrictions on the label for use of treated foliage for non-dairy animals.

European corn borer: Damage from second-generation borers may be more severe this year than last. Start examining late fields of corn in south-central and central Illinois about August 1, and in northern Illinois about August 10. If

there is an average of one or more masses per plant, apply DDT at 1 1/2 pounds per acre as a spray or 1 pound per acre as granules. Do not apply to corn to be used for ensilage or stover. Endrin can be applied to ensilage corn within 45 days of harvest.

Bagworms: These worms will soon reach the peak of their destructiveness. They are now about 1/2 to 3/4 grown, but control is still possible. Use 2 teaspoons of 50 to 57 percent malathion concentrate, 3 teaspoons of 60 percent toxaphene concentrate or 1 tablespoon of lead arsenate per gallon of water as a spray, and apply thoroughly. Do not use malathion on cannart juniper.

Picnic beetles: This shiny beetle about 1/4 inch long with four yellow spots on its back is the one about which many people are now complaining. These beetles are appearing in large numbers around the farm, home and garden. They are scavengers, feeding on overripe or injured fruits and vegetables and other decaying materials. Home gardeners should use malathion for control in vegetable and fruit crops. Follow the manufacturer's directions on the container.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:mfb
7/29/60

In7

FOR IMMEDIATE RELEASE August 4, 1960

INSECT SURVEY BULLETIN NO. 16

This is the sixteenth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture, and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Face flies: This pest is increasing rapidly and it has become quite noticeable that animals are fighting these flies. Face flies resemble house flies but are slightly larger and they cluster about the eyes and nostrils of the animals. The eyes water excessively, and the animals bunch up, shake their ears, and rub their heads instead of grazing.

DDVP, 0.2% in a mixture of 75% corn sirup and 25% water has been approved as a bait. Make daily applications with a single six-inch stroke of a small paint brush to the foreheads of cattle. Morning applications of the bait are recommended daily for a two-week period, followed by other applications as needed. When the face flies feed on the bait, the population is soon reduced to non-economic levels. Products conforming to this label are or soon will be on the market.

For best results, use only those DDVP baits specifically labeled for face fly control. Similar products containing DDVP are on the market to be used as house fly baits. Some of these commercially prepared house fly baits contain an added material to extend the shelf-life of the bait. This added material, although not repellent to house flies, repels face flies.

Until DDVP face fly baits become available, apply repellent sprays containing tabatrex or R-326 in combination with pyrethrins to the heads of dairy cattle. Special face-fly-repellent sprays containing these materials are available and may be expected to reduce the fly population 60 to 70 percent.

For beef cattle, use a backrubber containing either 5 percent DDT or toxaphene in oil. Success with backrubbers will depend on whether the animals can smear a liberal supply of the chemical on their heads. Backrubbers constructed with an outer layer of canvas, burlap, or cloth, as opposed to metal, would be best for this purpose. Allow 30 days to elapse between this treatment and slaughter of the animals. When DDVP face fly baits become available, they can be used on both dairy and non-dairy animals that can be handled.

European corn borer: On the basis of population surveys for first-generation corn borer, it appears that second-generation borer numbers will be about the same as last year in northwestern Illinois, lower in northeastern and central Illinois, and higher in eastern, western, and west-southwestern Illinois. Highest populations will probably be in the west-southwestern, western, and northwestern areas.

Because of the wide range in planting dates this year, second-generation borers may tend to concentrate in late-planted fields. Field corn that averages over one egg mass per plant may profit from one application of 1 1/2 pounds of actual DDT per acre as a spray, or 1 pound in the form of granules. Do not apply to ensilage corn or corn stover to be used for dairy cattle. Sweet corn canners should be ready to protect corn to be harvested after the 20th of August.

Corn leaf aphids: At what stage of plant development this aphid actually damages the corn is not known, but the greatest damage probably occurs during the pretassel to early tassel stage. This is also true of sorghum. In severe infestations to corn, apply 1 pound of malathion per acre. Since the effect of aphid control on yield is not known, this treatment should be tried only on a small scale and accurate yield records should be taken. One-fourth pound of parathion or phosdrin may be applied, but only by operators experienced in handling and applying them. One day should elapse between applications of phosdrin and harvest, 7 days with malathion, and 15 days with parathion. These materials should be applied to sorghums in the early boot stage. Allow three days to elapse between application of phosdrin and harvest, 7 days with malathion, and 21 days with parathion.

Armyworms: Infestations of this worm have been reported from grassy fields of corn in northern Illinois. If leaf feeding becomes severe, apply 1/4 pound of dieldrin or 1 1/2 pounds of toxaphene per acre. Follow label precautions.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

In7

FOR IMMEDIATE RELEASE August 12, 1960

INSECT SURVEY BULLETIN NO. 17

This is the seventeenth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Face flies: Populations continue to increase. Some farmers are reporting as many as 80 flies per head, and it is very likely that populations will become greater during the next month.

DDVP, 0.2%, in a mixture of 75% corn sirup and 25% water has been approved as a bait. Apply daily to the foreheads of cattle with a single six-inch stroke of a small paint brush. Morning applications are recommended daily for a two-week period, followed by other applications as needed. When face flies feed on the bait, the population is soon reduced to non-economic levels. It is hoped that products conforming to this label will soon be on the market. In the meantime, standard livestock repellent sprays for dairy cattle will give a few hours' relief from the flies. Backrubbers that enable the animals to rub their heads on them can be used with 5% DDT or toxaphene for beef cattle. Allow 30 days to elapse between this treatment and slaughter.

European corn borer: With the cool weather of the past few days, it is entirely possible that pupation of the first generation has stopped in northern Illinois and will not continue. This means that the second-generation population in the northern area may not be so large as anticipated. Although egg masses can be found, no concentrated heavy egg-laying has been observed as yet.

Sweet corn canners should, however, continue to carefully check fields that are 10 or more days from harvest and apply control measures as necessary. Along with corn borer, corn earworm may well become a serious problem on later planted sweet corn.

Fall armyworm: Some late fields of corn have spotted infestations of this pest. The leaf feeding of the small worms is now noticeable as they eat small areas in the leaves and only the white leaf tissue remains. The worms are found deep in the whorl. They usually attack late-planted fields. DDT or toxaphene can be applied, provided the corn is not to be used for ensilage or stover.

Corn leaf aphids: There is little information on the actual effect this insect has on yield. As a consequence, positive statements regarding benefits of control can not be made. It is known that heavy infestations of the insect are related to barrenness and decrease in ear size, but no actual figures on percent of plants infested and effect on yield are available to make specific recommendations on when or when not to treat. We have had reports that 10 to 20 percent of the plants in a few fields are covered with aphids. If aphid control is to be attempted in infestations of this size, leave an untreated section in the field for yield comparison.

In severe infestations to corn, apply 1 pound of malathion per acre. One-fourth pound of parathion or phosdrin may be applied, but only by operators experienced in handling and applying these materials. One day should elapse between applications of phosdrin and harvest, 7 days with malthion and 15 days with parathion. These materials can be applied to sorghums in the early boot stage to control aphids. Allow three days to elapse between application of phosdrin and harvest, 7 days with malathion and 21 days with parathion.

Northern corn rootworm: The adult, a pale green to yellow beetle, feeds on corn silks. Some areas, particularly in southern Illinois, have infestations severe enough to interfere with pollination. This is particularly true if the hybrid has a tendency to be incompletely pollinated. One and one-half pounds of DDT per acre readily controls these beetles. Do not apply to corn for ensilage or stover.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

In7

FOR IMMEDIATE RELEASE August 19, 1960

INSECT SURVEY BULLETIN NO. 18

This is the eighteenth and last in a series of weekly bulletins on the insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture, and cooperating agencies. These reports are generalized, and each individual should check his own field to determine local conditions.

Face flies. This insect continues to be serious on cattle and horses in the northern half of Illinois (north of Highway 36). Herds this past week averaged 40 face flies per animal in this area, and one herd averaged as many as 130 per head. In this same herd a single animal carried over 300 flies.

Runny eyes and eye diseases are common among cattle bothered by these flies. In addition, infested animals stop grazing, bunch up, twitch their ears and shake and rub their heads. The energy cattle spend in fighting face flies, coupled with shortening of the grazing period, lowers milk and beef production. The situation is not expected to improve until after the first frost, when flies will begin to hibernate.

To estimate the severity of face flies on a herd, make counts between 10 a.m. and 4 p.m. on a sunny day.

DDVP, 0.2%, in a mixture of 75% corn syrup and 25% water has been approved by the USDA and FDA as a bait for face flies. Apply daily with a single six-inch stroke of a small paint brush to the foreheads of cattle. Morning applications of the bait are recommended daily for a two-week period, followed by other applications as needed. It is hoped that products conforming to this label will soon be on the market. Repellent sprays used against biting flies on dairy cattle will give a few hours' relief from face flies. Lasting sprays of Diazinon or ronnel used inside the barn on ceilings and walls against house flies may also help to reduce face flies that enter buildings and sheds on cool, cloudy days. Backrubbers that enable the animals to rub their heads on it and smear on a liberal amount of insecticide can be used with 5% DDT or toxaphene for beef cattle. Allow 30 days to elapse between this treatment and slaughter.

European corn borer. Development of this insect is slow because of the recent cool weather. In the northern area (north of Highway 6), less than 50% of the first-generation worms have pupated to form second-generation moths; 85-90% of the worms that pupated have emerged as moths. Egg-laying in the late-maturing fields (pretassel to fresh silk) remains low. Counts averaged 20 egg masses per 100 plants in these fields in the northern section. Between 30 and 40% of the eggs were hatched, but egg-laying should continue for the next two to three weeks in this area. The large number of late-maturing fields available to the moths for egg-laying will help to reduce numbers in any one field. However, late-maturing fields will still profit from treatment for the next two weeks in this area, provided there is an average of 100 or more egg masses per 100 plants. Optimum time for treatment is past in most of the area south of Highway 6.

Corn leaf aphids. There is little information on the actual effect this insect has on yield, and as a consequence positive statements regarding benefits of control can not be made. It is known that heavy infestations of the insect are related to barrenness and decrease in ear size, but no actual figures on percent of plants infested and effect on yield are available to make specific recommendations as to when and when not to treat. Timing of treatments may also be as

important to profitable control as the level of infestation. We have had reports that 10 to 20 percent of the plants in a few fields are covered with aphids. If you attempt control in infestations of this size, leave an untreated section in the field for comparison.

In severe infestations to corn, apply 1 pound of malathion per acre. One-fourth pound of parathion or phosdrin may be applied, but only by operators experienced in handling and applying them. One day should elapse between applications of phosdrin and harvest, 7 days with malathion, and 15 days with parathion. These materials can be applied to sorghums in the early boot stage for aphid control. Allow three days to elapse between application of phosdrin and harvest, 7 days with malathion, and 21 days with parathion.

Fall armyworm. These brown worms with stripes are attacking some late-maturing fields of corn. Their feeding gives the plant a chewed-up appearance. Fields that are most likely to have a problem are those not yet in the dry silk stage. Observe the silks and whorls carefully for signs of these insects. If 20% or more of the plants have young worms and/or egg masses, apply ground sprays containing 1 1/2 pounds of DDT or toxaphene per acre. For best results direct the spray at the ear zone or into the whorl. Five percent DDT granules, 15 pounds per acre from ground equipment or 20 pounds per acre by airplane, are also effective on corn that is still in the whorl stage. Once the worms enter the ear, it is too late for effective control. Do not apply DDT or toxaphene to corn used for ensilage or stover.

Grasshoppers. These insects are now damaging soybeans and corn. The hoppers can be readily controlled with 1/4 pound of dieldrin or 1 1/2 pounds of toxaphene per acre. When using dieldrin, allow 60 days to elapse between treatment and harvest of corn. If dairy pasture or forage must be sprayed, use 1 pound of malathion, but do not pasture or harvest for 7 days after treatment. For best results, make the applications in the late afternoon or early evening. Toxaphene may be used on forage crops to be fed non-dairy animals, provided they are removed from the forage six weeks before slaughter.

Adult spittlebugs and cloverleaf weevils. These insects are concentrating in this year's legume seedings. The eggs they deposit this fall will produce the populations that will be seen in fields next spring. New seedings are most likely to be damaged by these insects next spring, particularly in the northern sections and along the eastern edge of the state. To avoid damage to the first cutting of hay next spring, apply DDT at 1 1/2 pounds per acre during the last few days of August or into the first 10 days of September. Plant bugs are also reduced by this treatment. Forage crops treated with DDT should not be fed to dairy cattle or to livestock being fattened for slaughter. Fall-treated forage may be grazed or cut for hay or silage for livestock next spring.

Our thanks and our compliments to all who have supplied information for this bulletin during the 1960 growing season. We hope you will join us again next year in an effort to outsmart the insects.

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This weekly report was prepared by Steve Moore III, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

SM:df
8/19/60

FOR IMMEDIATE RELEASE April 20, 1961

INSECT SURVEY BULLETIN NO. 1

This is the first in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture, and cooperating agencies. It is designed to forewarn people of Illinois of impending changes in insect activity and suggests abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

General conditions: A cold spring has delayed plant development and in most instances, insect activity as well. With a few days of warm weather, insects will become more active.

Clover leaf weevils: Populations of this small green worm with the white to yellow stripe down its back are greater than they have been for the past 3 years. With slow growth of the clovers, damage may become apparent in an occasional field within the next week to 10 days. However, warm weather would stimulate plant growth and damage would not be serious. Populations are lower in southern Illinois than in the rest of the state.

If feeding becomes severe and plants appear stunted, an application of 1 1/2 pounds of methoxychlor or 1/4 pound of lindane per acre will control these weevils. Allow 30 days to elapse between treatment and harvest or pasture when using lindane and 7 days when using methoxychlor.

Pea aphids: This pest is now appearing in alfalfa fields in southern and central Illinois. If insecticide is required, the need should be apparent within 2 weeks. Use 1 pound of malathion, 1/4 pound of parathion or phosdrin or 1/8 pound of demeton per acre. Allow one week between treatment and harvest when using malathion, 1 day with phosdrin, 15 days with parathion, and 21 days with demeton. Only one application of demeton can be made per cutting. Demeton, parathion and phosdrin should be applied only by an applicator experienced in handling toxic organic phosphates.

Spittle bugs: An occasional tiny spittlebug can be found in central and south central Illinois. In northern Illinois, where the greatest population occurs, hatching will probably not start for about one week to ten days.

Sweet clover weevils: Aldrin, heptachlor or dieldrin in granular form may be applied with sweet clover seed or broadcast immediately after seeding to aid in the control of weevils and help establish the clover stand. Use 1/2 pound of actual aldrin or heptachlor or 1/4 pound of dieldrin per acre.

Corn soil insects: Applications of aldrin or heptachlor at or prior to planting of corn are generally recommended. Broadcast applications at 1 1/2 pounds of insecticide per acre, disked in immediately, provide more consistent control than row treatments of one pound per acre at planting. However, with average insect infestations, row treatments have been satisfactory.

Fungus flies on wheat: For the past 3 weeks, fungus flies have been present by the thousands in wheat fields, particularly wheat on soybean stubble. They are in the decaying organic material and are not pests of the wheat plant.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but also will eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

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FOR IMMEDIATE RELEASE April 28, 1961

INSECT SURVEY BULLETIN NO. 2

This is the second in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture, and cooperating agencies. It is designed to forewarn people of Illinois of impending changes in insect activity and suggests abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Face flies: These pests of livestock have been migrating from their hibernating areas to cattle during the past two weeks in the area north of a line from Paris to Carrollton. Occasional herds, particularly adjacent to wooded areas, have averaged as many as 20 per animal. Animals with these high counts are beginning to fight flies, and their eyes are noticeably watering. Populations will probably not increase noticeably during this cool weather, but now is the time to start a control program. It will have a marked effect in reducing later populations. Livestock farmers should observe their cattle on warm, sunny days when they are in the field. Flies that are in and around the eyes and nostrils are usually face flies. If there is one or more per animal, start a control program now.

For dairy cattle, apply DDVP commercially prepared face fly bait daily to the animal's forehead for the next 2 to 3 weeks and then every 3 to 5 days as needed. For beef cattle, use 5 percent toxaphene in a backrubber. Homemade backrubbers work as well as the commercial ones. Run a taut line of 4 to 6 strands of barbed wire from a post about 5 feet above ground to a stake in the ground about 9 feet away, and wrap with gunny sacks. Saturate with the toxaphene solution. Place the backrubber where it is readily accessible and will be used. Do not treat cattle with toxaphene within 28 days of slaughter.

Hessian flies: Questions have been asked about the spring brood of flies. No control measures are known for this brood. However, emergence of flies ranged from 50 to 75 percent this week, and eggs are being deposited on the upper surface of wheat leaves as far north as Springfield.

Spittle bugs: These insects are now hatching from the overwintering eggs. Controls, where desired, can be applied this week. One or more spittle bugs per stem should be present before control is considered. At present the insects are tiny and difficult to find, and careful examination is required. Populations will be highest in northern Illinois.

To control spittle bugs, use 1/4 pound of lindane per acre or 1 pound of methoxychlor per acre. Lindane does best when air temperatures are over 60 degrees. It will also control clover leaf weevil and aid in control of pea aphids. Do not apply lindane within one month of harvest or pasture, or methoxychlor within one week.

Clover leaf weevil: Clover is now beginning to grow away from damage, but an occasional field in central and western Illinois has a high population.

If damage is severe and aphids are also present, use lindane; 1 1/2 pound of methoxychlor may be used, particularly if pasture is involved.

Pea aphids: This insect is increasing rapidly, particularly in alfalfa fields in central, south-central, and southern Illinois. Warm weather will enable

a fungus disease of aphids to develop rapidly, particularly if it is muggy. Wasp parasites of aphids are just appearing in fields.

No damage is visible yet, but upon the first indication of wilting, apply 1 pound of malathion, 1/4 pound of parathion or phosdrin, or 1/8 pound of demeton per acre. Allow one week between treatment and harvest when using malathion, 1 day with phosdrin, 15 days with parathion, and 21 days with demeton. Only one application of demeton can be made per cutting. Demeton, parathion, and phosdrin should be applied only by an applicator experienced in handling toxic organic phosphate.

Greenbug: This pest is abundant in some of the states to the west and south of Illinois. Some winged greenbugs have been observed there. None have been found yet in Illinois, and whether there will be any is questionable. There are numbers of English grain aphids in grain fields at present, but they should not be confused with the true greenbug.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

NOT FOR PUBLICATION - Special note to farm advisers and assistant farm advisers: 4-H members will soon begin making their summer project plans. Members enrolled in the entomology project can obtain a free packet of 50 insect pins by writing to Steve Moore, 280 Natural Resources Building, Urbana, Illinois. Be sure to obtain a supply of the new 4-H Entomology Record Book (BP-23), which also contains cut-out labels for collections. Copies of the Handbook of the Insect World, which will assist members with identification, are also available.

We will welcome reports of insect abundance from county agricultural extension personnel. Those wishing to have insect report blanks, please write to us and we will send them by return mail.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:bb
4/28/61

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FOR IMMEDIATE RELEASE May 5, 1961

INSECT SURVEY BULLETIN NO. 3

This is the third in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture, and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and suggests abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Face flies: These pests are about as numerous this week as they were last week and will lay eggs for another generation of flies expected in late May or early June. Controlling them now will materially reduce numbers this summer.

For dairy cattle, apply DDVP commercially prepared face fly bait daily to the animal's forehead for the next 2 to 3 weeks and then every 3 to 5 days as needed. For beef cattle, use 5 percent toxaphene in a backrubber. Homemade backrubbers work as well as the commercial ones. Run a taut line of 4 to 6 strands of barbed wire from a post about 5 feet above ground to a stake in the ground about 9 feet away, and wrap with gunny sacks. Saturate with the toxaphene solution. Place the backrubber where it is readily accessible and will be used. Do not treat cattle with toxaphene within 28 days of slaughter.

Spittle bugs: The cool weather has retarded egg hatch. On fields warranting treatment, insecticides should be applied in the area south of Highway 6 the week of May 8 and north of Highway 6 late the same week and the following week. At least one or more spittle bug nymphs per stem should be present to warrant treatment. The nymphs are small and it takes careful examination of the stems and leaf sheaths to find them.

To control spittle bugs, use 1/4 pound of lindane or 1 pound of methoxychlor per acre. Lindane does best when air temperatures are over 60 degrees. It will also control clover leaf weevil and aid in controlling pea aphids. Do not apply lindane within one month of harvest or pasture, or methoxychlor within one week.

Pea aphids: These pests are numerous in alfalfa fields in the southern two-thirds of the state. No severe wilting from their feeding has been observed. Insect predators of aphids are not abundant, but wasp parasites are becoming more noticeable. With warmer temperatures a fungus disease of aphids will aid in control.

To control pea aphids, apply one pound of malathion, 1/4 pound of parathion or phosdrin, or 1/8 pound of demeton. Allow one week between treatment and harvest when applying malathion, 1 day with phosdrin, 15 days with parathion, and 21 days with demeton. Only one application of demeton can be made per cutting. Demeton, parathion, and phosdrin should be applied only by operators experienced in handling organic phosphates.

Elm leaf beetles: These insects may soon appear in southern Illinois. The small, dirty, yellow to black, spiny larvae will skeletonize elm leaves. They are particularly severe on Chinese elms. To control them, use 4 to 6 pounds of lead arsenate, 2 pounds of 50 percent wettable DDT powder or 2 quarts of 25 percent DDT emulsifiable concentrate per 100 gallons of water as a spray.

Corn borer: Borer development is slow this year. Pupation of overwintering borers and moth emergence could be later than usual. Thus borer survival in early-planted fields could be quite high. However, with an anticipated large acreage of early-planted corn, first-generation populations may be diluted, and only a few fields may have high concentrations. But with good survival and favorable weather, second generation could be a problem.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but also will eliminate insecticide residue hazards.

Special note to Farm Advisers: Please send us, as in previous years, your estimates of the percent of the corn crop that was planted on May 2, 9, 16, 23, and 30. This information will help us anticipate abundance of various corn insect pests.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:bb
5/5/61

FOR IMMEDIATE RELEASE May 12, 1961

INSECT SURVEY BULLETIN NO. 4

This is the fourth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture, and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and suggests abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Face flies: Our most pressing insect problem at present is this new pest of livestock. As many as 55 face flies have been counted on one animal during the past two sunny days. Counts of 5 to 20 per animal are common. This situation exists north of a line from Paris to Carrollton. Flies are also laying eggs. We now foresee a serious face fly problem this summer, perhaps even more serious than we have seen thus far. This should serve as a warning to livestock and dairy farmers to start immediately on a face fly control program. The better the control now, the less severe the problem will be this summer.

For dairy cattle, apply DDVP commercially prepared face fly bait daily to the animal's forehead for the next 2 to 3 weeks and then every 3 to 5 days as needed. For beef cattle, use 5 percent toxaphene in a backrubber. Homemade backrubbers work as well as the commercial ones. Run a taut line of 4 to 6 strands of barbed wire from a post about 5 feet above ground to a stake in the ground about 9 feet away, and wrap with gunny sacks. Saturate with the toxaphene solution. Place the backrubber where it is readily accessible and will be used. Do not treat cattle with toxaphene within 28 days of slaughter.

Pea aphids: Occasional clover and alfalfa fields, particularly in central and north-central Illinois, are heavily infested with aphids; some plants are now sticky from honey dew, a sugary secretion of the aphids. Wilting is occurring in some fields. With the present moisture and an increase in temperature, parasites, predators, and aphid diseases may help reduce the population.

If control is necessary, apply one pound of malathion, 1/4 pound of parathion or phosdrin, or 1/8 pound of demeton. Allow one week between treatment and harvest when applying malathion, 1 day with phosdrin, 15 days with parathion, and 21 days with demeton. Only one application of demeton can be made per cutting. Demeton, parathion, and phosdrin should be applied only by operators experienced in handling organic phosphates.

Spittle bugs: Control is still in order if the field averages at least one or more nymphs per stem. To control spittle bugs, use 1/4 pound of lindane or 1 pound of methoxychlor per acre. Lindane does best when air temperatures are over 60 degrees. It will also control clover leaf weevil and aid in controlling pea aphids. Do not apply lindane within one month of harvest or pasture, or methoxychlor within one week.

Corn borer: Corn borer development will be later than normal this year compared with development of the corn crop. This means that the young borers in late June and July will survive better than usual. However, they may be scattered over a large acreage.

Armyworms: We have had one report of tiny armyworms from southern Illinois. So far the cool, damp weather has been ideal for armyworms. Examine luxuriant growths of wheat, barley, rye, timothy, and other grasses, as it is in this

type of growth that armyworm moths lay eggs. Examine all lodged spots carefully. If an infestation develops, control will probably not be needed for two weeks or more.

Toxaphene, 1 1/2 pounds, or dieldrin, 1/4 pound per acre, is recommended for small grains. Allow 7 days between treatment with dieldrin and harvest of grains and 7 days for toxaphene, except for barley, which requires a 14-day waiting period. For beef pastures, use toxaphene; allow a 42-day period between last grazing on treated pastures and slaughter. For dairy pastures, use 2 pounds of methoxychlor per acre, but do not graze for one week after treatment.

Greenbug: Be on the watch for small yellow or dead spots in small grain fields in which the dying grain is covered with aphids, as greenbugs may appear this year.

Spring cankerworm: These measuring or inch worms begin to feed on elm leaves just before or as they are emerging from the bud in the early spring. Control when the worms are small will be beneficial. Apply a spray of 4 pounds of lead arsenate, 2 pounds of 50 percent wettable DDT, or 1 quart of 25 percent emulsifiable DDT per 100 gallons of water as the leaf buds are opening or shortly thereafter.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but also will eliminate insecticide residue hazards.

Special Note to Farm Advisers: It is difficult to distinguish the English grain aphid from the greenbug. A hand lens is needed to observe this difference. Cornicles are tubes or protuberances on the back of an aphid. The cornicles and legs on the English grain aphid are slender and long; and on a greenbug, short and stubby.

If you are not already doing so, please send us your estimate of the percent of the corn crop that was planted on May 2, 9, 16, 23, and 30. This information will help us anticipate abundance of various corn insect pests.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:bb
5/12/61

IN7

FOR IMMEDIATE RELEASE May 19, 1961

INSECT SURVEY BULLETIN NO. 5

This weekly bulletin on the general insect situation in Illinois (fruit insects excepted) is prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture, and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Armyworms were found in barley fields in the south third of Illinois this week. It was still too early to diagnose the situation, as the worms were so small, some just newly hatched, that accurate counts could not be made. Also, moth flight was greater this week than at similar times during the past 3 years. This may mean that eggs are still being deposited. Furthermore, armyworms thrive best in cool, damp weather.

On the basis of previous experience, timothy and other grassy fields will probably be the first areas where armyworms will be noticed. Next will be barley and rye fields, and then wheat.

During the next few weeks, observe fields of luxuriant grass and small grain crops. Down spots in grains are the first place to examine. If worms are numerous, examine other areas in the field. If there are six or more per linear feet of drill row, treatment will be profitable. However, it will not be needed until the worms are about 1/2 inch long, as they do little damage until about half grown.

Toxaphene, 1 1/2 pounds, or dieldrin, 1/4 pound per acre, is recommended for small grains. Allow 7 days between treatment with dieldrin and harvest, and 7 days for toxaphene; barley, however, requires 14 days. For beef pastures, use toxaphene; allow 42 days between last grazing on treated pastures and slaughter. For dairy pastures, use 2 pounds of methoxychlor, or 1 pound of malathion per acre, but do not graze for one week after treatment.

Black cutworms: Although we have no information on moth abundance, conditions are ideal. The moths lay the eggs in wet spots in fields and in bottom land or overflow areas. They have plenty of areas to choose from this year.

Aldrin or heptachlor, 1 1/2 pounds per acre, broadcast and disked in before planting, will protect against cutworm attack. Row treatments have given erratic results. When no preventive measures have been used and worms are cutting corn below the heart of the plant, apply 1/2 pound of dieldrin, 3 pounds of toxaphene or 1/4 pound of endrin per acre, and direct the spray at the base of the plant.

Sawfly larvae feed on wheat leaves. Ordinarily they are of no economic importance, and control measures are rarely recommended. They are easily confused with true armyworms, however. A sawfly has at least six pairs of abdominal prolegs compared with four pairs for the armyworm.

Corn borer: Half of the overwintering corn borers have pupated in southern Illinois, but pupation has just started in central Illinois. This is about one week later than normal. The area north of a line from St. Louis to

Watseka had the highest overwintering population. South of this line populations were low.

Pea aphids are heavily infesting occasional clover and alfalfa fields, particularly in northern Illinois, and damage is occurring in some fields. With present moisture and an increase in temperature, parasites, predators and aphid diseases may help to reduce the population.

If control is needed, apply one pound of malathion, 1/4 pound of parathion or phosdrin or 1/8 pound of demeton. Allow one week between treatment and harvest when applying malathion, 1 day with phosdrin, 15 days with parathion and 21 days with demeton. Only one application of demeton can be made per cutting. Demeton, parathion and phosdrin should be applied only by operators experienced in handling organic phosphates. Be sure to clean the weed spray out of the sprayer before using on alfalfa and clover.

Spittle bug control is still in order if fields average one or more nymphs per stem and the plants are not over 10 inches tall. To control, use 1/4 pound of lindane or 1 pound of methoxychlor per acre. Lindane does best when air temperatures are over 60 degrees. It will also control clover leaf weevil and aid in controlling pea aphids. Do not apply lindane within one month of harvest or pasture, or methoxychlor within one week.

Face flies are still more numerous than they were last year. Eggs are being laid, and the new generation will begin to appear within the next few weeks. The population will continue to increase throughout the summer. Start control measures now.

For dairy cattle, apply DDVP commercially prepared face fly bait daily to the animal's forehead for the next 2 or 3 weeks and then every 3 to 5 days as needed. For beef cattle, use 5 percent toxaphene in a backrubber. Homemade backrubbers work as well as the commercial ones. Run a taut line of 4 to 6 strands of barbed wire from a post about 5 feet above ground to a stake in the ground about 9 feet away, and wrap with gunny sacks. Saturate with the toxaphene solution. Place the backrubber where it is readily accessible and will be used. Do not treat cattle with toxaphene within 28 days of slaughter.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:bm
5/19/61

FOR IMMEDIATE RELEASE May 26, 1961

INSECT SURVEY BULLETIN NO. 6

This weekly bulletin on the general insect situation in Illinois (fruit insects excepted) is prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture, and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Pea aphid populations mushroomed during the past two weeks. In some fields of alfalfa and clover in central and north-central Illinois, damage has been severe. In some areas the population is decreasing rapidly because of a fungus disease of aphids. Aphids killed by this disease are brown and have a flattened appearance. Aphid predators, such as lady beetles (both adult and larvae) and damsel bugs, are becoming prevalent and are now further helping to reduce aphid numbers. To spread rapidly, the fungus disease must have some moisture and warm temperatures. Spraying is questionable when brown aphids are numerous and lady beetles are becoming plentiful. In areas where it has been dry and cool, the fungus is not common and a severe aphid problem still exists.

Examine this year's seedings in small grains, as aphids are migrating to these small plants. It may be necessary to spray these new seedings with malathion. Again the fungus disease and predators may help.

With hay harvest approaching, apply one pound of malathion or 1/4 pound of phosdrin. Allow one week between treatment and harvest when applying malathion, and one day with phosdrin. Be sure to clean the weed spray out of the sprayer before using on alfalfa and clover. Phosdrin should be applied only by operators experienced in handling organic phosphates.

In heavy growths of alfalfa, spray penetration is poor and control is not perfect. If the alfalfa is close to harvest, cut and then spray second growth if the aphids transfer to it.

Corn borer pupation is approximately 25 percent in the central and north-central sections and 10 to 15 percent in the northern section. Development of corn borer compared with corn growth is similar to 1956, but the overwintering population is not so great this year as in 1956.

The armyworm situation is not yet serious, but in the southern third of Illinois armyworms have been found in grass and grain fields. No large concentrations have been located, but they may be present and overlooked. Examine rank growths of grasses and grains.

Toxaphene, 1 1/2 pound, or dieldrin, 1/4 pound per acre, is recommended for small grains. Allow 7 days between treatment with dieldrin and harvest, and 7 days for toxaphene on wheat but 14 days on barley. For beef pastures, use toxaphene; allow 42 days between last grazing on treated pastures and slaughter. For dairy pastures, use 2 pounds of methoxychlor or 1 pound of malathion per acre, but do not graze for one week after treatment.

Sawfly larvae feed on wheat leaves. Ordinarily they are of no economic importance, and control measures are rarely recommended. A sawfly has at least six pairs of abdominal prolegs compared with four pairs for the armyworm. Sawflies are easily confused with true armyworms. In making armyworm counts, do not include sawfly larvae.

Face flies are still numerous on cattle in the northern one half of the state. In addition, populations warranting treatment were observed this week as far south as St. Louis.

For dairy cattle, apply DDVP commercially prepared face fly bait daily to the animal's forehead for the next 2 to 3 weeks and then every 3 to 5 days as needed. For beef cattle, use 5 percent toxaphene in a backrubber. Homemade backrubbers work as well as commercial ones. Run a taut line of 4 to 6 strands of barbed wire from a post about 5 feet above ground to a stake in the ground about 9 feet away, and wrap with gunny sacks. Saturate with the toxaphene solution. Place the backrubber where it is readily accessible and will be used. Do not treat cattle with toxaphene within 28 days of slaughter.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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HBP:bl
5/26/61

FOR IMMEDIATE RELEASE June 2, 1961

INSECT SURVEY BULLETIN NO. 7

This weekly bulletin on the general insect situation in Illinois (fruit insects excepted) is prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

The armyworm situation has changed this week. Several fields of wheat with damaging numbers of worms have been reported. However, the worms were still small and just reaching the damaging stage. These reports came primarily from western and southwestern Illinois, but other areas may be affected. It will be well to examine rank growths of grasses and grain for the next few weeks. If there is an average of about six worms (1/2 inch or longer) per linear foot of drill row, treatment may be profitable.

Toxaphene, 1 1/2 pounds, or dieldrin, 1/4 pound per acre, is recommended for small grains. Allow 7 days between treatment with dieldrin and harvest, and 7 days for toxaphene on wheat but 14 days on barley. For beef pastures, use toxaphene; allow 42 days between last grazing on treated pastures and slaughter, particularly if toxaphene is being used on the animals to control flies. For dairy pastures, use 2 pounds of methoxychlor or 1 pound of malathion per acre, but do not graze for one week after treatment.

Flea beetles have affected corn stands in occasional fields in central, western and southwestern Illinois. They strip the green from the leaf surface, leaving only the white tissue. When the beetles are extremely abundant, the damage may be so severe that the leaf, and in some cases the entire plant, dies. If these beetles are stripping the leaves to the point of killing plants, then treatment is recommended.

Use 1/4 pound of deldrin or 1 1/2 pounds of DDT per acre as a band spray over the row.

Sod webworms are killing or seriously damaging some fields of corn, particularly corn after grass sods. They feed below the soil surface, eating on the stalk. Since webworms are concealed in a web to which dirt clings, they are difficult to find. The leaves, upon emerging, are full of holes and often are half eaten. This damage was done when the leaf was in the roll in the stalk.

DDT as recommended for flea beetles will aid in control, but two nozzles per row should be used. Point them toward the plant.

Billbugs are snout beetles that drill holes in stalks below ground level. When the leaves emerge, they have a series of holes in them. Occasionally this attack may kill plants. These beetles are being reported primarily from the northern one-third of the state, but may occur in other areas later. Apply DDT as for sod webworms.

Wireworms have taken some fields of early corn. If the field is to be replanted, apply 2 or 3 pounds of aldrin or heptachlor per acre, and disk in immediately. The higher rate may be necessary to kill the large wireworms in the short interval between treatment and replanting.

If the present stand is adequate, it would be wise to spray with 1 1/2 to 2 pounds of aldrin or heptachlor directed at the base of the plant. Wireworm feeding may continue for 2 or 3 weeks. Follow this application immediately with cultivation, throwing as much dirt as possible up around the plants.

Black cutworms are now appearing in some areas of central and western Illinois, but may appear in other areas during the next two weeks. If the stand can still be saved, apply 1/2 pound of dieldrin or 3 pounds of toxaphene, directed at the base of the plant, and follow with immediate cultivation. Examine stands of corn in low areas in the fields for this pest. Treatment after the worst damage has been done is not economical. The larger the worms, the more difficult they are to kill, so early treatment pays off. In flooded areas, broadcast 1 1/2 pounds of aldrin or heptachlor per acre, and disk in before planting to safeguard against later attack.

Corn borer emergence has just begun in southern Illinois. Pupation is approximately 50 percent complete in central Illinois and 10 to 25 percent in northern Illinois. Corn borer development is about a week later than last year and about the same as in 1956, when first-generation borer survival was very high.

Greenbugs have been collected in Illinois on small grains, but the population is extremely low. Report to your county farm adviser any dead or dying spots in small grain fields in which plants are heavily infested with aphids.

Pea aphids are still serious in some alfalfa and red clover fields in northern Illinois. It is too close to harvest to use insecticides except for 1 pound of malathion, which requires one week between treatment and harvest or pasture. The best suggestion is to cut the hay crop now, salvage what can be used and then spray the new growth if the aphids continue. Lindane, 0.3 pound per acre, can be used at that time as well as malathion. Allow one month to elapse between treatment with lindane and harvest.

Bagworms, if not already hatching, soon will hatch in southern and central Illinois. After hatch is complete, apply a spray made with 2 teaspoons of 57 percent malathion concentrate, 3 teaspoons of 60 percent toxaphene concentrate or 1 tablespoon of lead arsenate per gallon of water. A second application two weeks later may be needed. Do not apply malathion to Cannart red cedar, as injury may occur.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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HBP:bl
6-2-61

FOR IMMEDIATE RELEASE June 9, 1961

INSECT SURVEY BULLETIN NO. 8

This weekly bulletin on the general insect situation in Illinois (fruit insects excepted) is prepared by entomologists of the Illinois Natural History Survey, University of Illinois College Agriculture and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Armyworms are approaching the damaging stage. They can be found in low to moderate numbers over a large area of the state, with the highest concentrations in western and southwestern Illinois. Some fields of grains in southern Illinois have already been treated.

For the next two weeks, examine luxuriant growths of small grains and grasses. First examine down spots and then, if large numbers of worms are present, examine the remainder of the field. If there are six or more worms per linear foot of drill row or 10 to 12 per square foot in grasses, treatment is advisable.

Toxaphene, 1 1/2 pounds, or dieldrin, 1/4 pound per acre, is recommended for small grains. Allow 7 days between treatment with dieldrin and harvest, and 7 days for toxaphene on wheat, but 14 days on barley. For beef pastures, use toxaphene; allow 42 days between last grazing on treated pastures and slaughter, particularly if toxaphene is being used on the animals to control flies. For dairy pastures, use 2 pounds of methoxychlor or 1 pound of malathion per acre, but do not graze for one week after treatment.

Black cutworms are appearing in corn, fields in spotted areas in central and western Illinois and may appear in other areas soon. If the stands can still be saved, apply 1/2 pound of dieldrin or 3 pounds of toxaphene, directed at the base of the plant, and follow with immediate cultivation. The larger the worms, the more difficult they are to kill, so early treatment pays off. If replanting is necessary, broadcast at least 2 pounds of aldrin or heptachlor or 1 pound of dieldrin per acre, and disk in before planting to safeguard against continued attack.

Flea beetles continue to feed on corn in the southern half of the state. They strip the green from the leaf surface, leaving only the white tissue. When the beetles are extremely abundant, the damage may be so severe that the leaf, and in some cases the entire plant, dies. If these beetles are stripping the leaves to the point of killing plants, then treatment is recommended. However, the greatest part of the damage should be over within a week.

If control is necessary, use 1/4 pound of dieldrin or 1 1/2 pounds of DDT per acre as a band spray over the row.

Chinch bug damage, appearing as dead spots, may occur in thin, open stands of small grains within the next few weeks in central and eastern Illinois. Examine these spots for adults and nymphs. If bugs are extremely numerous throughout the field, apply 1/2 pound of dieldrin, but not within 7 days of harvest.

Corn borer emergence ranges from 10 to 20 percent as far north as Galesburg and up to 5 percent in northern Illinois. Corn growth and borer development parallel those of the 1956 season. That year insecticide applications to field corn began about June 25 in the central section of Illinois and continued to about

July 10 in northern Illinois. This year, however, the overwintering borer population is lower than it was in 1956. Observe the more advanced fields for the next three or four weeks.

Bean leaf beetle is attacking soybeans, in some instances, just as they are emerging from the ground. If stands are being noticeably reduced from beetles killing the plants, apply 1 1/2 pounds of DDT, 1/4 pound of dieldrin or 1 1/2 pounds of toxaphene per acre.

Pea aphids continue to be present throughout the northern two-thirds of the state, but by far the highest concentrations are in the northern third. Many of the aphids are developing wings and migrating to other crops. Parasites, predators and aphid diseases are abundant in some fields and scarce in others but over all are helping to check aphid populations throughout the state.

It is too close to harvest to use insecticides except for 1 pound of malathion, which requires one week between treatment and harvest or pasture. The best suggestion is to cut the hay crop now, salvage what can be used and then spray the new growth if the aphids continue. Lindane, 0.3 pound per acre, can be used at that time, as well as malathion. Allow one month to elapse between treatment with lindane and harvest.

Watch new seedings closely, as aphids are migrating into them and can quickly kill these tender plants. Malathion can be used for new seedings within one week of grain harvest. Lindane should not be applied after grain heads start to form.

Potato leafhoppers migrated into Illinois this past week, concentrating in an area north of a line from Quincy to Lawrenceville. Although the infestations are spotted throughout this area, the highest populations are in central Illinois. Leafhoppers are the tiny, light-green, wedge-shaped insects that attack second-growth alfalfa; the alfalfa turns yellow, is stunted, and hay quality is seriously affected. Damage from this pest may be greater than it has been over the past few years. Examine second growth carefully and if these leafhoppers are numerous, apply 1 pound of methoxychlor per acre. It is too late to treat after damage becomes evident, as the plants will not recover from the feeding of these leafhoppers.

Face flies are present in economic numbers in the area north of a line from St. Louis to Paris. Apply control measures now.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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HBP:bb
6/9/61

FOR IMMEDIATE RELEASE June 16, 1961

INSECT SURVEY BULLETIN NO. 9

This weekly bulletin on the general insect situation in Illinois (fruit insects excepted) is prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borer moths are now laying eggs throughout the more heavily infested area, which is north of a line from St. Louis to Danville. In general, weather conditions during the next three weeks may determine the severity of corn borer this year. Wind and rain storms kill moths. Hot, dry weather that rolls the corn leaves causes egg masses to fall to the ground, where the tiny borers will not survive.

Moth emergence varies from 50 to 80 percent in south-central Illinois; egg laying will continue for another two weeks in this area. Emergence in central Illinois varies from 30 to 70 percent, and egg laying will continue for two to three weeks. Emergence in northern Illinois varies from 10 to 50 percent, and egg laying will continue for three to four weeks.

Corn 30 inches and over, extended leaf height, in the area north of a line from St. Louis to Danville and south of a line from Kankakee to Rock Island had from 50 to 280 egg masses per hundred stalks this week. Hatch had just begun. Start insecticide applications on the earliest fields in this area sometime the week of June 26. North of this area egg laying is just beginning, and treatment should probably start about the first of July. Cool nights will retard egg laying and delay timing of treatments for best control.

It is entirely possible that moths may continue to concentrate egg masses in the most advanced fields of corn; borer survival in these fields will be high. Therefore, observe these most advanced fields closely for the next three weeks.

To determine the need for treatment, examine 50 to 100 plants for signs of borer feeding on the whorl leaves. If 75 percent or more of the plants show recent whorl feeding, check the tassel ratio. Measure from the base to the tip of the plant with leaves extended. Split the plant lengthwise, and measure from the base of the plant to the tip of the developing tassel. Divide the tassel height by the plant height, and multiply by 100. Take an average of five representative plants per field. This is the tassel ratio. The corn will warrant treatment if the tassel ratio is 30 or above, but, if possible, treatments should not be applied until the ratio is at least 35 and preferably 45. However, treatment after borers have drilled into the stalk proper will not be effective.

DDT is still the insecticide most commonly used for corn borer. Apply 1 1/2 pounds per acre as a spray or 3/4 to 1 pound per acre as granules. When spraying, arrange two or three nozzles over the row to cover the upper one-third of the plants, particularly the whorl zone.

Other insecticides approved for use against corn borer include endrin and toxaphene. Ensilage or stover of corn treated with DDT or toxaphene should not be fed to dairy cattle. Endrin may be used in this case, provided label restrictions are followed.

Canners should examine sweet corn this week, as treatment may be necessary starting the week of June 25. For the next three weeks, carefully observe any fields with a tassel ratio of 20 or more.

Market growers in the northern half of Illinois should plan to start insecticide treatments for borer control this week (June 19).

Armyworms became evident in some areas in the southern half of Illinois this past week. In many areas the worms have now practically matured, the damage is done, and it is too late to profitably apply insecticides. In other areas small worms are still numerous, and in these cases control may still be profitable. Farther north, worms are smaller and damage is not yet evident. When the worms are predominantly only half to two-thirds mature, control will be profitable. Continue to examine rank stands of grains and grasses for the next ten days. If there are six or more worms per linear foot, or 12 or more per square foot, treatment is advised. Smaller populations can be serious if they begin to cut grain heads.

To control, apply 1 1/2 pounds of toxaphene or 1/4 pound of dieldrin per acre for small grains. Allow 7 days between treatment with dieldrin and harvest, and 7 days for toxaphene on wheat, but 14 days on barley. For beef pastures, use toxaphene; allow 42 days between last grazing on treated pastures and slaughter, particularly if toxaphene is being used on the animals to control flies. For dairy pastures, use 2 pounds of methoxychlor or 1 pound of malathion per acre, but do not graze for one week after treatment.

Cutworms are maturing rapidly and the damage to corn is about over. The cutworm moths from this generation are starting to emerge. They probably will migrate north, but may remain here to lay eggs. A later outbreak is therefore possible.

Grape colaspis damage may appear this week to corn and soybeans planted on clover sods or after two years of beans. These tiny, comma-shaped grubs eat the root hairs and may scar the main root. Damaged corn turns purple, and beans turn yellow. Yields are reduced, but rarely is damage so severe that replanting is warranted. Control measures are not effective this late.

Grasshoppers are hatching in the southern half of Illinois. Control these infestations while the grasshoppers are still concentrated in the fence rows, ditch banks, and grass waterways. Use 1/8 to 1/4 pound of dieldrin or 1 to 1 1/2 pounds of toxaphene per acre. Do not apply dieldrin to pastures grazed by dairy cattle or animals being finished for slaughter. Toxaphene cannot be used on dairy pastures; it can be applied to pastures for beef animals, but not within 42 days of slaughter.

Pea aphids are present on second-growth alfalfa and clovers, but not to the extent that they were a few weeks ago. Weather conditions will determine their importance. Warm, muggy weather enabling a fungus disease to spread rapidly would reduce aphid numbers drastically. New growth can be sprayed with 1 pound of malathion to within one week of harvest or with 1/4 pound of lindane to within 28 days of harvest. If new seedings in grain fields are being seriously attacked, use malathion to within one week of grain harvest.

Flea beetles are decreasing in number, and the next generation will appear in late July and early August. Corn is now rapidly growing away from the damage of the past few weeks.

Stored grain insect control can start now. With wheat harvest rapidly approaching, take steps to protect the new wheat from attack. Clean out old grain and other debris from in and around the bin. Apply a bin spray of 1.5% premium grade malathion or 2.5% methoxychlor to the point of run-off. DDT should not be used for this purpose.

Treat the wheat with a premium-grade malathion protective dust or spray at the rates recommended on the label. Anyone planning to store oats or shelled corn for longer than six to eight weeks would also profit by using this treatment. Treated grain may be fed to livestock or marketed with complete safety.

Bagworms are hatching in central and northern Illinois. This is about two weeks later than normal. Apply insecticides in the next week to 10 days in central and northern Illinois. After hatch is complete, apply a spray made with two teaspoons of 57 percent malathion concentrate, 3 teaspoons of 60 percent toxaphene concentrate or 1 tablespoon of lead arsenate per gallon of water. A second application two weeks later may be needed. Do not apply malathion to Cannart red cedar, as injury may occur.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:mfb
6/16/61

FOR IMMEDIATE RELEASE June 23, 1961

INSECT SURVEY BULLETIN NO. 10

This weekly bulletin on the general insect situation in Illinois (fruit insects excepted) is prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borer moth activity has been retarded by the cold nights. They will not lay eggs when temperatures are below 50° and egg laying is slow even between 50° and 60°, but with the first few warm, calm nights eggs should be deposited in numbers. With cool nights moths will lay eggs in cornfields during cloudy calm days. However, the longer the moths are delayed the more likely that wind and rain storms will kill them before they lay all their eggs.

In general, moth emergence is complete or nearly so south of highway 36. From there north to highway 6, up to 20 percent of the moths have not yet emerged from the pupal stage and in northern Illinois 20 to 30 percent are still to emerge. With the moths yet to emerge and with the cool nights, egg laying may continue for some time.

Egg mass counts are quite variable from one area to another. The area bounded by the Mississippi river and a line from St. Louis to Decatur to LaSalle to Rock Island has the highest counts at present. Egg mass counts in field corn here this week varied from 0 to 440 per 100 stalks in the most advanced fields. The area north of a line from Danville to Decatur and that north of highway 6, had counts ranging from 0 to 60 per 100 plants in the most advanced fields. Egg laying may just be getting well underway in this general area. These counts are about the same as they were in 1960, lower than they were in 1955 and 1956, but higher than in 1958 and 1959. Since corn is more advanced than in 1960, the borer survival may be higher. As usual corn borer development is earlier on the west side of the state than on the east.

General time to start treatments in the most advanced field corn in the area south from Quincy to St. Louis is still sometime the week of June 26. From Quincy north to Rock Island the time to start treating will be late the week of June 26. Treatment where needed on the east side of the state will be a few days later than this. Do not begin to treat field corn in the area north of highway 6 until the week of July 3. Delay treating those fields warranting it as long as possible. The clearance height of the equipment may be a limiting factor in how long you can wait to treat.

To determine the need for treatment, examine 50 to 100 plants for signs of borer feeding on the whorl leaves. If 75 percent or more of the plants show recent whorl feeding, check the tassel ratio. Measure from the base to the tip of the plant with leaves extended. Split the plant lengthwise, and measure from the base of the plant to the tip of the developing tassel. Divide the tassel height by the plant height, and multiply by 100. Take an average of five representative plants per field. This is the tassel ratio. The corn will warrant treatment if the tassel ratio is 30 or above, but, if equipment clearance permits treatments should not be applied until the ratio is at least 35 and preferably 45. However, treatment after borers have drilled into the stalk proper will not be effective. Continued cool nights which retard egg laying may delay timing of treatments for best control.

DDT is still the insecticide most commonly used for corn borer. Apply 1 1/2 pounds per acre as a spray or 3/4 to 1 pound per acre as granules. When spraying, arrange two or three nozzles over the row to cover the upper one-third of the plants, particularly the whorl zone.

Other insecticides approved for use against corn borer include endrin and toxaphene. Ensilage or stover of corn treated with DDT or toxaphene should not be fed to dairy cattle. Endrin may be used in this case, provided label restrictions are followed.

Stored grain insects. With wheat harvest starting, take steps to protect the new wheat from insect attack. Clean out old grain and other debris from in and around the bin. Apply a bin spray of 1.5% premium grade malathion or 2.5% methoxychlor to the point of run-off. Do not use DDT for this purpose.

Treat the wheat with a premium grade malathion protective dust or spray at the rates recommended on the label. Anyone planning to store oats or shelled corn for longer than 6 to 8 weeks would also profit by using this treatment. Treated grain may be fed to livestock or marketed with complete safety.

Weather conditions of the past 10 days to 2 weeks have affected corn. Do not confuse this general damage by wind, cold weather, and possibly hot sun on tender leaf tissue with insect feeding. This weather damage appeared as a white searing of the leaves, yellow leaves, and broken leaves. It was general throughout a large area of Illinois.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:bl
6/23/61

In 7

FOR IMMEDIATE RELEASE June 30, 1961

INSECT SURVEY BULLETIN NO. 11

This weekly bulletin on the general insect situation in Illinois (fruit insects excepted) is prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Face flies have completed at least one generation this year; eggs are now being laid for another generation and from now on, generations will overlap. This week some herds averaged 40 flies per animal. Other herds averaged less than five per animal. Animals in dry lot had the fewest flies. Observe cattle between 10:00 a.m. and 3:00 p.m. as flies will be most active during the middle of the day.

Complaints about face flies on cattle have been received from the area north of a line from St. Louis to Lawrenceville, with the largest populations in the northern half of Illinois.

The situation is alarming and a control program must be started now and continued faithfully. Do not underestimate the seriousness of this problem. High temperatures speed up the reproductive rate and the increase in face fly numbers will be rapid, reaching an expected peak in mid-August to early September. Take immediate action to control those now present.

For dairy cattle, apply DDVP commercially prepared face fly bait to the animal's forehead for the next 2 to 3 weeks and then every 3 to 5 days as needed. For beef cattle, use 5 percent toxaphene in a backrubber. Homemade backrubbers work as well as commercial ones. Run a taut line of 4 to 6 strands of barbed wire from a post about 5 feet above ground to a stake in the ground about 9 feet away, and wrap with gunny sacks. Saturate with the toxaphene solution. Place the backrubber where it is readily accessible and will be used. Do not treat cattle with toxaphene within 28 days of slaughter.

The corn borer situation has eased considerably. The last emergence of moths occurred this week and scattered egg laying may continue for another 10 days to 2 weeks. However, there is so much corn attractive for egg-laying that the eggs yet to be laid will be scattered sparsely over a large area, but borer survival from these eggs will be high. Even though first-generation corn borer numbers are not expected to be concentrated in a few fields, the average population over an entire area may be sufficiently high to produce a serious population of second-generation borers in August.

Examine the most noticeably advanced fields in a community this week as an occasional field may profit from treatment. To determine the need for treatment, examine 50 to 100 plants for signs of borer feeding on the whorl leaves. If 75 percent or more of the plants show recent whorl feeding, check the tassel ratio. Measure from the base to the tip of the plant with leaves extended. Split the plants lengthwise, and measure from the base of the plant to the tip of the developing tassel. Divide the tassel height by the plant height, and multiply by 100. This is the tassel ratio. Take an average of 5 representative plants per field. The corn will warrant treatment if the tassel ratio is 30 or above. Applications of insecticides, where necessary, should be applied now. Treatment after borers have drilled into the stalk proper will not be effective.

DDT is still the insecticide most commonly used for corn borer. Apply 1 1/2 pounds per acre as a spray, or 3/4 to 1 pound per acre as granules. When spraying, arrange two or three nozzles over the row to cover the upper one-third of the plants, particularly the whorl zone.

Other insecticides approved for use against corn borer include endrin and toxaphene. Ensilage or stover of corn treated with DDT or toxaphene should not be fed to dairy cattle. Endrin may be used in this case, provided label restrictions are followed.

Grasshoppers. Control grasshoppers while they are still concentrated in the fence rows, ditch banks, and grass waterways. Use 1/8 to 1/4 pound of dieldrin or 1 to 1 1/2 pounds of toxaphene per acre. Do not apply dieldrin to pastures grazed by dairy cattle or animals being finished for slaughter. Toxaphene cannot be used on dairy pastures; it can be applied to pastures for beef animals, but not within 42 days of slaughter.

Leafhopper eggs are common on corn in western and southwestern Illinois. These egg masses, often confused with corn borer eggs, are laid in leaf tissue in a fan- or kidney-shaped area. The individual eggs are long and narrow with four or five in each mass. They can not be dislodged easily as corn borer egg masses can be.

Elm leaf beetle are now abundant on Chinese elm. To control, apply a spray containing 4 pounds of lead arsenate, 2 quarts of 25% DDT concentrate, or 2 pounds of 50% DDT wettable powder per 100 gallons of water.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:bb
6/30/61

Ir 7

FOR IMMEDIATE RELEASE July 7, 1961

INSECT SURVEY BULLETIN NO. 12

This weekly bulletin on the general insect situation in Illinois (fruit insects excepted) is prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Face flies are the most pressing farm insect problem in Illinois this week. Right now they are abundant on cattle on many farms. Almost all herds of cattle, dairy and non-dairy, north of a line from St. Louis to Lawrenceville have some face flies present on them. With warm weather the numbers of face flies will increase rapidly reaching a peak in late August or early September. South of this line from St. Louis to Lawrenceville face flies are not numerous enough to be considered a serious problem yet.

From all reports DDVP sirup face fly baits applied to the animal's forehead are giving good results. However, they must be applied daily for about two weeks, then every 3 to 5 days or as needed. This control, although designed for dairy cattle, can be used on non-dairy cattle if feasible.

Toxaphene, 5 percent in oil, in a backrubber is recommended for non-dairy animals. The effectiveness of this method of control is dependent on the animal's willingness to rub its head on the cable and the abundance of trees and brush in the pasture. Do not apply toxaphene to livestock within 28 days of slaughter.

Animals that have access to sheds or barns gain some relief as many of the face flies do not follow them inside. Animals in dry lot have considerably fewer flies than do those on pasture.

Grasshoppers are being reported in very localized situations. Control them while they are small. It requires less material over a much smaller area now than it will later. Examine fence rows, ditch banks, and grass waterways for small 'hoppers. Although luxuriant vegetation in these areas may hold them for some time, it might be well to control them now.

Use 1/8 to 1/4 pound of dieldrin or 1 to 1 1/2 pounds of toxaphene per acre. Do not apply dieldrin to pastures grazed by dairy cattle or animals being finished for slaughter. Toxaphene cannot be used on dairy pastures; it can be applied to pastures for beef animals, but not within 42 days of slaughter.

Picnic beetles or scavenger beetles as they are called, are now emerging and will soon be a nuisance everywhere. These beetles are about 1/4-inch long, shiny black, and have four yellow to orange spots on their backs. They are attracted to the odor of food. They get into the food at picnics, and outdoor barbecues. They swarm onto overripe or injured fruits and vegetables in gardens.

Keep gardens and berry patches free of overripe and rotting fruits and vegetables. As fruits and vegetables become ripe, pick them immediately. Preventing injury from other insects will help reduce the numbers of these pests on vegetable and fruit farms. Sprays of diazinon or malathion help to control them, but it may be necessary to make repeat applications as beetles migrate into the area. Follow labels on containers for time intervals between treatment and harvest.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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HBP:df
7/7/61

FOR IMMEDIATE RELEASE July 14, 1961

INSECT SURVEY BULLETIN NO. 13

This weekly bulletin on the general insect situation in Illinois (fruit insects excepted) is prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Grasshoppers are becoming evident in localized areas throughout Illinois. These infestations are correlated with lack of rainfall during the time the eggs were hatching. Hard, beating rains kill newly hatched 'hoppers, but hoppers a few days old are able to survive. Examine clover, alfalfa and soybean fields as grasshoppers are migrating out of fence rows, ditch banks, grass waterways and similar areas.

For dairy pastures or hay crops, use 1 pound of malathion per acre. Allow one week between application and harvest or pasture. For beef pastures, use 1 1/2 pounds of toxaphene per acre. Remove animals from toxaphene-treated pastures 42 days before slaughter, particularly if toxaphene is being used for fly control.

For unused areas, use toxaphene, 1/4 pound of dieldrin or 1/4 to 1/2 pound of aldrin or heptachlor per acre.

Leafhopper damage is now appearing in alfalfa. These leafhoppers are tiny, wedged-shaped green insects. Damaged fields are purplish-yellow, and the plants are stunted. Control of leafhoppers will not be profitable after the damage becomes evident. Mow the field and examine the new shoots. If the wingless leafhopper nymphs are numerous, apply 1 pound of methoxychlor per acre. Do not treat within one week of harvest or pasture.

Face flies continue to be a serious livestock problem. DDVP face fly baits are effective in the control of these flies. However, daily applications are needed for at least two weeks to bring the population under control. Applications every 3 to 5 days thereafter should maintain effective control.

DDVP baits can be used on all cattle that can be handled. When non-dairy animals can not be handled, backrubbers using 5% toxaphene will be of benefit. Their effectiveness will depend on the use the animals make of them. Some failures have been reported, but the backrubbers were placed where the animals did not use them or in pastures with lots of brush and trees. In these instances, place them in a lane or near a water tank or salt lick. Do not apply toxaphene to dairy cattle. It can be used on non-dairy animals, but not within 28 days of slaughter.

Stable flies are numerous on dairy cattle, averaging as high as 15 to 20 per animal in some herds. This means at least a 10% loss in milk production. Repellent sprays should be used immediately to protect the animals during grazing. Pay particular attention to the legs and undersides when spraying.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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HBP:bb
7/14/61

In 7

FOR IMMEDIATE RELEASE

July 21, 1961

INSECT SURVEY BULLETIN NO. 14

This weekly bulletin on the general insect situation in Illinois (fruit insects excepted) is prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Grasshoppers are abundant in spots throughout the state. In some instances they are moving from fence rows and ditch banks into the edges of soybean and corn fields. Where they are still concentrated in ditch banks, fence rows, grass waterways and similar areas, apply 1 1/2 pounds of toxaphene or 1/4 pound of dieldrin per acre. For corn or soybeans, use 1 ounce of aldrin or dieldrin or 1 1/2 pounds of toxaphene. When using aldrin or dieldrin, allow 40 days to elapse between treatment and harvest. Do not feed toxaphene-treated forage to dairy animals or animals being finished for slaughter. Use one pound of malathion per acre on forage crops or pastures for dairy cattle. Allow one week to elapse between treatment with malathion and harvest or pasture.

Leafhoppers, tiny, wedged-shaped green insects, are abundant in alfalfa. Damaged fields are purplish-yellow, and plants are stunted. Control of leafhoppers will not be profitable after the damage becomes evident. Mow the field and examine the new shoots. If the wingless leafhopper nymphs are numerous, apply 1 pound of methoxychlor per acre. Do not treat within one week of harvest or pasture.

Face flies are becoming more numerous, and severe eye infections of cattle have been reported. Observe cattle in the pasture during the middle of the day. If there are three to five flies clustering around the eyes and nostrils, start fly control immediately. Use DDVP face fly baits on animals that can be handled. On non-dairy animals that can not be handled, use 5% toxaphene in a backrubber. Do not apply toxaphene within 28 days of slaughter.

Picnic beetles or scavenger beetles are about 1/4 inch long, shiny black and have four yellow to orange spots on their backs. These beetles are attracted to the odor of food and are particularly annoying at picnics or outdoor barbecues. They also swarm onto overripe or injured fruits and vegetables in gardens.

Keep gardens and berry patches free of overripe and rotting fruits and vegetables. As fruits and vegetables become ripe, pick them immediately. Preventing injury from other insects will help to reduce the numbers of these pests on vegetable and fruit farms. Sprays of diazinon or malathion help to control them, but it may be necessary to repeat applications as beetles migrate into the area. Follow labels on containers for time intervals between treatment and harvest.

Control of beetles in backyards and picnic areas is difficult. Either malathion or diazinon applied to bushes, around garbage pails and in similar areas a few hours before serving food is of temporary benefit only. Beetles may be attracted to the food from quite a distance and fly in over the sprayed surfaces directly to the food.

Yellow clover aphids are abundant in occasional fields of red clover, particularly in the southeastern part of the state, where some damage has been noticed. These yellow aphids become abundant on the lower part of the plant and then slowly migrate to the upper part. If control is needed, use one pound of malathion per acre, but not within one week of harvest.

Corn borer moths are emerging in the East St. Louis vegetable area. Corn two weeks or more from market may require corn borer sparys. In southern Illinois field corn, pupation of first generation reached 50 percent this week. Fields in the vicinity of extremely early cornfields may be damaged by second-generation borer.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:bb
7/21/61

In 7

FOR IMMEDIATE RELEASE July 28, 1961

INSECT SURVEY BULLETIN NO. 15

This weekly bulletin on the general insect situation in Illinois (fruit insects excepted) is prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Although grasshoppers are still abundant in many areas throughout Illinois, vegetation in fence rows and ditch banks may increase because of recent rain and many of the grasshoppers may not migrate to cultivated crops. However, grasshoppers are now large enough to see easily in fence rows, ditch banks, grass waterways, clover, alfalfa, soybean and corn fields. If thry are abundant in fence rows, ditch banks and similar areas, apply 1 1/2 pounds of toxaphene or 1/4 pound of dieldrin per acre. For corn or soybeans, use 1 ounce of aldrin or dieldrin, or 1 1/2 pounds of toxaphene. When using aldrin or dieldrin, allow 40 days to elapse between treatment and harvest. Do not feed toxaphene-treated forage to dairy animals or animals being finished for slaughter. Use 1 pound of malathion per acre on forage crops or pastures for dairy cattle. Allow one week to elapse between treatment with malathion and harvest or pasture.

Corn borers just started to pupate in northern Illinois this week. Pupation averaged 50 percent in western and southwestern Illinois, where egg laying for second generation is expected to start late the week of August 7.

First-generation borer populations in the area from St. Louis to Quincy were lower this year than in 1960 but about the same as in 1958 and 1959. This is the only area where population estimates have been made thus far.

Green cloverworms, green worms with narrow lengthwise white stripes, are appearing in soybean fields. These worms eat the leaves. To date only low numbers have been seen in soybean fields.

House flies will, with warm weather and moisture now present, increase rapidly in number. Diazinon and ronnel are recommended as residual sprays in barns, around garbage pails and in other similar areas. Follow instructions on the label. Scatter baits and liquid baits of DDVP, diazinon, dibrom, dipterex, malathion or ronnel can be used to good advantage as a supplement to residual sprays. Even with effective insecticides, however, good sanitation practices are the most important step in house fly control.

Face flies are still present in numbers and should be controlled before the population builds up and becomes unmanageable. Use DDVP face fly baits on dairy cattle and other cattle that can be handled. On non-dairy animals that can not be handled, use 5 percent toxaphene in a backrubber. Do not apply toxaphene within 28 days of slaughter.

Stable flies, which suck blood from cattle, breed in wet decaying straw, hay or other similar material. Although they have been quite numerous for several weeks, they may now increase rapidly. Use repellent and knockdown sprays immediately to protect dairy cattle during grazing. Pay particular attention to the legs and undersides when spraying.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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HBP:bl
7/27/61

IN 7

FOR IMMEDIATE RELEASE August 4, 1961

INSECT SURVEY BULLETIN NO. 16

This weekly bulletin on the general insect situation in Illinois (fruit insects excepted) is prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Bean leaf beetles are eating holes in soybean leaves. These red, green or yellow beetles usually have four black spots on their backs. They drop off the plants with the slightest disturbance and for this reason are difficult to find. Ordinarily they feed on the leaves but on occasion will chew on blossoms and pods.

Grasshoppers have reported to be feeding on soybean blossoms. In this case control may be profitable, since 'hoppers also feed on pods and leaves. Other insects, mainly the green clover worm, the alfalfa webworm and the garden webworm, may be eating the soybean foliage. For overall control of these soybean insects, apply 1 1/2 pounds of toxaphene or 1/4 pound of dieldrin per acre. Allow 40 days to elapse between an application of dieldrin and harvest. Do not feed toxaphene-treated forage to dairy animals or animals being finished for slaughter.

First-generation corn borer populations throughout the northern half of Illinois are about the same as those of 1960. It is too early to determine the percentage of first-generation borers that will pupate.

Face fly populations leveled off during July but may increase rapidly with moisture and heat. DDVP face fly baits applied daily have controlled this pest. Apply the bait on the forehead of the animal. Apply to an area about 1 inch wide and 6 inches long.

For non-dairy cattle that can not be handled, 5% toxaphene in backrubbers have been giving some relief. The effectiveness of this method depends entirely on how much the cattle use the backrubber. Where the problem of use exists, study the situation carefully to determine what type of backrubber to use and where to locate it. If animals do not use a backrubber, try putting treated rolls of burlap bags on a tree that they use as a rubbing post. Even when properly located, backrubbers must be recharged about once a week for best results. When using toxaphene, do not slaughter animals for 28 days after treatment.

Cicada killer wasps have attracted lots of attention during the past few weeks. These wasps are about 1 1/2 inches long, yellow and brown and vicious looking. They can inflict severe stings but will not do so unless molested. They seek out cicadas, paralyze them by stinging, and take them to a burrow in the ground. They then insert an egg which hatches into a wasp grub that feeds inside the cicada.

To control these insects, apply a 2 to 3% chlordane solution in the burrow after dusk, and then stop up the hole with dirt. A tablespoon of carbon tetrachloride in each burrow can be used in place of the chlordane.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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HBP:dl
8/4/61

IN7

August 11, 1961

INSECT SURVEY BULLETIN NO. 17

This weekly bulletin on the general insect situation in Illinois (fruit insects excepted) is prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borer moth flight is well under way, and egg laying has begun. About 75 percent of the first-generation borers are going to pupate, and moth emergence will continue for the next several weeks. Damage to field corn by second generation will probably be about the same as it has been for the past four years.

Sweet corn for canning and fresh market may be more heavily infested this year than for the past four years, however. In addition, corn earworm moths continue to lay eggs. This earworm problem is expected to become more severe. Corn to be harvested after August 20 should be protected from damage by a regular insecticide program. In addition, good earworm and corn borer control means fewer sap beetles and picnic beetles in the field.

Grasshoppers have begun to migrate from roadsides, ditch banks and hay crop fields to soybean and corn fields. Damage is now evident, particularly on the margins of the fields. Some alfalfa and clover fields have been stripped of leaves, and the hoppers are leaving these fields rapidly.

This situation is very severe in localized areas, but nearby areas may have only normal populations. These extremes may be correlated with the egg laying of 'hoppers last fall and with severe rainstorms this spring which killed the unprotected 'hoppers shortly after they hatched. These same timely rains may have missed the severely infested areas. The grasshopper infestation is more severe in the northern areas of Illinois.

To control 'hoppers in soybeans and corn, apply 1/4 pound of dieldrin or 1 1/2 pounds of toxaphene per acre. Allow 40 days to elapse between application of dieldrin and grain harvest. Do not feed toxaphene-treated forage to dairy animals or animals being finished for slaughter.

Use one pound of malathion per acre on hay crops or pasture for dairy cattle or animals being finished for slaughter. Allow one week to elapse between application and harvest or pasture.

Fall armyworm feeding is appearing in late-planted fields of corn. The leaves have great areas gouged out of them, giving the plants a ragged appearance. The worms are commonly found in the whorl, and there will usually be several infested plants in one spot in the field. Populations of this insect will probably increase from now until late September. Control is difficult after the damage becomes evident, but granular insecticides may penetrate the whorl more readily than sprays. Use 1 1/2 pounds of toxaphene or DDT. Do not treat corn to be used for ensilage or stover for dairy cattle or animals being finished for slaughter.

Face flies continue to present a problem throughout the northern two-thirds of Illinois. However, the problem is most severe in the northern and north-central parts of the state. Populations of these flies can be expected to increase for the next month. DDVP face fly baits have controlled these flies when used

properly, but must be applied daily to a strip about six inches long and an inch wide on the animals' foreheads. After the population has been brought under control, maintenance applications every three to five days will be needed.

For non-dairy cattle that cannot be handled, 5 percent toxaphene in backrubbers have been giving some relief. The effectiveness of this method depends entirely on how much the cattle use the backrubber. Where the problem of use exists, study the situation carefully to determine what type of backrubber to use and where to locate it. Even when properly located, backrubbers must be recharged about once a week for best results. When using toxaphene, do not slaughter animals for 28 days after treatment.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

I N 7

FOR IMMEDIATE RELEASE August 18, 1961

INSECT SURVEY BULLETIN NO. 18

This weekly bulletin will be the last one of the season unless insect conditions warrant further ones. These bulletins have been prepared by entomologists of the Illinois Natural History Survey, University of Illinois College of Agriculture and cooperating agencies. They are designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Grasshopper damage is more apparent in the northern half of the state than in the southern half. Defoliation of corn, soybeans and clover in the northern half of Illinois was noticeable this week even from the roadsides. The 'hoppers are now migrating from hay crop fields, pastures and unused areas to soybeans and corn. Migrations and damage will continue for two or three more weeks.

To control 'hoppers in beans and corn, apply 1 1/2 pounds of toxaphene or 1/8 pound of dieldrin per acre. Allow 40 days to elapse between application of dieldrin and harvest of beans and corn as grain. Do not use treated plants as hay, ensilage or stover for dairy animals or animals being finished for slaughter.

If a band or border is to be sprayed on the margin of a field and the fencerow to control the migrating 'hoppers, increase the dieldrin rate to 1/4 pound per acre. If they are beginning to migrate from unused areas (reserve acres, roadsides, ditchbanks, etc.), apply dieldrin, toxaphene, heptachlor or aldrin to them.

If 'hoppers are still in uncut hay fields, apply 1 pound of malathion per acre and allow one week to elapse between treatment and harvest or pasture. If this is not desirable, cut the crop but leave one or two mower widths uncut. The grasshoppers will tend to concentrate in these areas, which can then be sprayed with any of the insecticides. However, do not use this strip for hay or pasture - discard it.

Webworms may attack fall-seeded alfalfa. In severe infestations the small seedlings may be killed. If the worms are numerous and damaging plants, apply 1 1/2 pounds of DDT or toxaphene per acre before webbing becomes general. Do not use for hay or pasture this fall.

Spittlebugs and clover leaf weevils that attack hay crops in the spring can be controlled now. Applications of DDT or lindane made between September 1 and 10 will kill adults before they lay their eggs. Do not use for hay or pasture this fall.

Face flies vary greatly in number from locality to locality and even from herd to herd. They may become even more numerous during the next several weeks.

Continue to use DDVP face fly baits daily or as needed on animals that can be handled. For non-dairy animals that cannot be handled individually, backrubbers with 5% toxaphene have been giving some relief from face fly attack when the animals on pasture use them. Where the flies are not being controlled in this way, the only solution may be to bring the cattle into dry lot and haul feed to them. See that the animals have access to the darkest areas in the barn. Spray posts, board fences, the sides of the barns and loafing sheds with diazinon or ronnel. Have a backrubber

in the lot, as the animals are more likely to use it here than in the pasture. Allow 28 days to elapse between treatment with toxaphene and slaughter.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:mfb
8/18/61

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FOR IMMEDIATE RELEASE April 19, 1962

INSECT SURVEY BULLETIN NO. 1

This is the first in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people of Illinois of impending changes in insect activity and suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Clover leaf weevils, which are small green worms with white stripes down their backs, can damage clover during a cool spring. Damage is usually most severe in fields with heavy trash cover. This year populations are higher in the central and western parts of the state than along the east side. Leaf feeding by these weevils was evident this past week.

If feeding becomes severe and plants appear stunted, an application of 1 1/2 pounds of methoxychlor or 1/4 pound of lindane per acre will control these weevils. Allow 30 days to elapse between treatment and harvest or pasture when using lindane and 7 days when using methoxychlor.

Pea aphids will present a problem in legume fields if weather remains cool. Low temperatures prevent development of natural enemies of aphids and retard plant growth. If an insecticide is required, the need should be apparent within two weeks. Use 1 pound of malathion, 1/4 pound of parathion or phosdrin or 1/8 pound of demeton per acre. Allow one week between treatment and harvest when using malathion, 1 day with phosdrin, 15 days with parathion and 21 days with demeton. Only one application of demeton can be made per cutting. Demeton, parathion and phosdrin should be applied only by an applicator experienced in handling toxic organic phosphates.

Meadow maggots are the larvae of a large brown, ungainly looking fly called the crane fly. These maggots may be abundant in southern Illinois in legume fields with heavy trash. It is most likely that they are feeding in the low, wet areas on roots of sedges and grasses, not the legumes. Need for control is questionable.

European corn borer winter survival is about 75 percent, which is average.

Face flies are now leaving hibernating areas and can be found on cattle. Although the count is low, we may expect more to appear during the next few weeks. The effect of this past winter on populations of these flies is not known. Therefore, dairymen should observe cattle during grazing and, when the face fly population reaches 5 per face, apply DDVP-sirup face fly bait each morning for about two weeks and thereafter as needed.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

FOR IMMEDIATE RELEASE April 27, 1962

INSECT SURVEY BULLETIN NO. 2

This is the second in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Clover leaf weevil populations are not generally high, but occasional fields of clover are showing some damage. Most of these green worms are about one-third to one-half grown and can be found under trash on the ground; some very small ones may be hiding in the crown of the plant or behind leaf sheaths. These insects feed at night. Examine slow-growing clover fields, particularly those with heavy trash cover in the northern-half of the state. Such fields may have some damage, but there is an excellent chance that warm weather will enable the plants to outgrow most of it. For insecticide treatment, refer to spittle bugs.

Spittle bug hatch began this week and will continue for the next week or two. Populations will be highest in the northern third of the state. Only fields with an average of one spittle bug nymph or more per stem will warrant treatment.

If control measures are needed for clover leaf weevil and spittle bugs, make applications within the next week or ten days for best results. Apply 1 pound of methoxychlor or one-fourth pound of lindane. Allow one week to elapse between application of methoxychlor and harvest of hay or use as pasture, and 28 days with lindane.

Pea aphid populations are not yet very high. Lady beetles feed on aphids, and tiny wasps also parasitize them. A fungus disease, most prevalent during warm, humid weather, also kills many aphids. Warm, wet weather favors rapid increase of these naturally occurring aphid enemies.

If we have either cool or warm, dry weather, these aphids could become abundant during the next three weeks. Buildup may occur on alfalfa within the next week to ten days in southern Illinois, and about a week later in the north.

Insecticide applications, when necessary, should be made before severe wilting and discoloration of plants. Use 1 pound of malathion, 1/4 pound of parathion or phosdrin or 1/8 pound of demeton per acre. Allow one week between treatment and harvest when using malathion, 1 day with phosdrin, 15 days with parathion, and 21 days with demeton. Only one application of demeton can be made per cutting. Demeton, parathion, and phosdrin should be applied only by an applicator experienced in handling toxic organic phosphates.

Face flies are generally present in small numbers on herds of cattle throughout the northern three-fourths of Illinois. Female flies are laying eggs that will produce the first buildup of flies for the summer months. Dairymen should begin baiting programs immediately, brushing DDVP in corn sirup on the foreheads of cattle. Beef producers having cattle on pasture should keep backrubbers well saturated with 5% toxaphene in oil. Allow 30 days to elapse between application of toxaphene on beef cattle and slaughter. Toxaphene cannot be used on dairy cattle.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:ml
4/27/62

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FOR IMMEDIATE RELEASE May 4, 1962

INSECT SURVEY BULLETIN NO. 3

This is the third in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. These reports indicate only general trends. Check your own fields to determine local conditions.

Small spittlebugs were found this week in extreme northern Illinois. Examine fields of clover and alfalfa for these tiny yellow insects. Examine stems and look closely behind leaf sheaths. If the average is at least 1 nymph per stem, consider using insecticides if you need all the hay you can produce. One spittlebug per stem reduces yields of dry hay by 200 to 300 pounds per acre. The higher the spittlebug count, the greater the expected loss.

If you are planning to control spittlebugs, this is the week to apply insecticides. If control is necessary, apply 1 pound of methoxychlor or 1/4 pound of lindane per acre. Allow one week between application of methoxychlor and harvest as hay or pasture, and 28 days with lindane.

Clover leaf weevil can be controlled with the same insecticides used for spittlebugs.

Pea aphid population may build up but, with the moisture now generally present, warm weather may favor a fungus disease that will kill the aphids. For the next few weeks check legume fields for these small, green, soft-bodied insects. If chemical control becomes necessary, apply 1 pound of malathion, 1/4 pound of parathion or phosdrin or 1/8 pound of demeton per acre before severe wilting and discoloration of plants occur. Allow 1 week between treatment and harvest when using malathion, 1 day with phosdrin, 15 days with parathion, and 21 days with demeton. Only one application of demeton can be made per cutting. Demeton, parathion and phosdrin should be applied only by an applicator experienced in handling toxic organic phosphates.

Sweet clover weevil may attack new seedings within the next few weeks. New stands of small plants can disappear within a few days when these insects migrate from last year's fields which are now being plowed. If these gray weevils are notching the leaves and in many instances entirely consuming the tender plants, apply 1 1/2 pounds of DDT per acre. Do not graze dairy animals or animals being finished for slaughter on DDT-treated fields. Do not treat after small grains begin to form heads.

Use of soil insecticides on corn ground apparently is going to increase greatly this year. If you are applying the material broadcast, disk it in immediately now that daytime temperatures are commonly above 60°. This prompt disking will minimize the loss of chemical by volatility.

Stored grain insect control can start now. Whenever the opportunity presents itself from now until grain harvest, sweep out the bins and clean up grain refuse around storage areas. Use a residual bin spray of 2 1/2% methoxychlor or 1 1/2% premium-grade malathion. Spray to run-off. Early treatment will provide best control.

Spring cankerworms: These measuring or inch worms begin to feed on elm leaves just before or as they are emerging from the bud in the early spring. Control when the worms are small will be beneficial. Apply a spray of 4 pounds of lead arsenate, 2 pounds of 50 percent wettable DDT, or 2 quarts of 25 percent emulsifiable DDT per 100 gallons of water as the leaf buds are opening or shortly thereafter.

Elm leaf beetles: These insects may appear soon in southern Illinois. The small, dirty, yellow to black, spiny larvae will skeletonize elm leaves. They are particularly severe on Chinese elms. To control them, use the same insecticides as for spring cankerworm.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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FOR IMMEDIATE RELEASE May 11, 1962

INSECT SURVEY BULLETIN NO. 4

This is the fourth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. These reports indicate only general trends. Check your own fields to determine local conditions.

Clover leaf weevils are dying from a fungus disease that will increase with warm weather. Most fields are rapidly growing away from weevil damage. It is too late for profitable control.

Pea aphid populations are generally low in alfalfa and red clover fields. Warm, humid weather will promote the spread of fungus disease of aphids. Infected or dead pea aphids are brown rather than bright green. Watch aphid numbers, particularly in the northern half of the state. Aphids survive best and increase rapidly in cool weather.

Spittlebug treatments must go on this week or not at all. Examine stems and look closely behind leaf sheaths for these tiny yellow insects. If the average is at least one nymph per stem, consider using insecticides if you need all the hay you can produce. One spittlebug per stem reduces yields of dry hay by 200 to 300 pounds per acre. The higher the spittlebug count, the greater the expected loss. If control is necessary, apply 1 pound of methoxychlor or 1/4 pound of lindane per acre. Allow one week between application of methoxychlor and harvest as hay or pasture, and 28 days with lindane.

Armyworms are just starting to hatch in grass fields and roadsides in the southern third of Illinois. Only a few have been observed in wheat fields thus far. At this early date there is no way to determine how severe the infestation will be or how general the egg laying has been. Moths are still migrating from the south and will continue to do so for a few more weeks. They will lay their eggs in the most vigorously growing grain. Armyworms will be most abundant in lodged areas in grain fields within the next three weeks.

Corn borer pupation has started as far north as Champaign, where 4 percent of the overwintering borers have now changed to the pupal stage. A band across north-central Illinois had the highest overwintering population of borers.

Spring cankerworms are measuring or inch worms that feed on elm leaves in the early spring. For control, apply a spray of 4 pounds of lead arsenate, 2 pounds of 50 percent wettable DDT, or 2 quarts of 25 percent emulsifiable DDT per 100 gallons of water.

Elm leaf beetles, small, dirty, yellow to black, spiny larvae, skeletonize elm leaves. They are particularly severe on Chinese elms. To control them, use the same insecticides as for spring cankerworm.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Research Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

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FOR IMMEDIATE RELEASE May 18, 1962

INSECT SURVEY BULLETIN NO. 5

This is the fifth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. These reports indicate only general trends. Check your own fields to determine local conditions.

Pea aphid populations in alfalfa and clover fields are increasing. Some fields have potentially damaging numbers of aphids but as yet little harm is being done. The number of aphid predators, like lady beetle and syrphid flies, are increasing and these may hold the aphids in check. Drying winds this past week slowed the spread of a fungus disease of aphids.

If chemical treatment becomes necessary, apply 1 pound of malathion, 1/4 pound of parathion or phosdrin, or 1/8 pound of demeton per acre before severe wilting and discoloration of plants occur. Allow 1 week between treatment and harvest when using malathion, 1 day with phosdrin, 15 days with parathion, and 21 days with demeton. Only one application of demeton can be made per cutting. Demeton, parathion and phosdrin should be applied only by an applicator experienced in handling toxic organic phosphates.

Spittlebugs and clover leaf weevils: Spittlebug froth masses are becoming apparent but counts generally remain low with only occasional fields having damaging numbers of spittlebugs. It is too late for good control of spittlebugs because of the tallness of the plants. Clover leaf weevil larvae are dying from disease and can be found on the upper parts of the plants. It is also too late for profitable control of this insect.

Armyworms are still small and no large concentrations have been located. However, they may be present and overlooked. There is no way of determining how heavy egg laying has been from moths which are migrating from the south. Examine rank growths of grasses and grains.

If there is an average of six worms (1/2 inch or longer) or more per linear foot of row, treatment is profitable. Toxaphene, 1 1/2 pounds, or dieldrin, 1/4 pound per acre, is recommended for small grains. Allow 7 days between treatment with dieldrin and harvest, and 7 days for toxaphene on wheat but 14 days on barley.

For beef pastures, use toxaphene but allow 28 days between last grazing and slaughter, or 42 days if the animals are being sprayed with toxaphene. For dairy pastures use 1 1/2 pounds of sevin or 2 pounds of methoxychlor per acre. Sevin has no waiting period but do not graze cattle for 7 days when using methoxychlor.

Corn borer pupation increased rapidly this past week with warm weather. Approximately 70-80 percent of the borers have pupated in the south central section; 20-50 percent in the central and north central section; and 0-20 percent in the northern section where pupation is just beginning. Development of corn borer is ahead of last year and slightly ahead of normal. Corn development is later than normal with only occasional fields showing through. This situation, if it continues, coupled with the general low overwintering population of corn borer, indicates that problems with first generation corn borer will be light, with the possible exception of the early planted fields.

Face flies are generally present on cattle on pasture throughout the northern 3/4 of Illinois. Counts although low (5-10/head) will begin to increase as the new generation of flies emerges.

For dairy cattle use 0.2% DDVP in corn sirup brushed on the foreheads of the animals. For beef cattle use a backrubber well saturated with 5% toxaphene in oil. Allow 30 days to elapse between application of toxaphene on beef cattle and slaughter. Toxaphene should not be used on dairy cattle.

Spring cankerworms are measuring- or inch-worms that feed on tree leaves in the early spring. Partial to nearly complete defoliation of hackberry and elm trees was observed this week in the western section of the state. For control, apply a spray of 4 pounds of lead arsenate, 2 pounds of 50 percent wettable DDT, or 2 quarts of 25 percent emulsifiable DDT per 100 gallons of water.

Elm leaf beetles, small, dirty, yellow to black, spiny larvae skeletonize elm leaves. They are particularly severe on Chinese elms. To control them, use the same insecticides as for spring cankerworms.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by Steve Moore, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Research Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

FOR IMMEDIATE RELEASE May 25, 1962

INSECT SURVEY BULLETIN NO. 6

These weekly bulletins, prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies, report general trends in insect populations in Illinois (fruit insects excepted). Check your own fields to determine local conditions.

Armyworms are numerous in an occasional winter barley field in southern Illinois. The worms are about half grown. No large numbers, however, have as yet been found in wheat or grass.

As a precautionary measure, check grain fields with particularly luxuriant growth. First look beneath the down spots. If worms are numerous, examine the rest of the field. Also check luxuriant timothy or other grass fields.

If there is an average of six worms (1/2 inch or longer) or more per linear foot of drill row, treatment will be profitable. Toxaphene, 1 1/2 pounds, or dieldrin, 1/4 pound per acre, is recommended for small grains. Allow 7 days between treatment with dieldrin and harvest, and 7 days for toxaphene on wheat but 14 days on barley.

For beef pastures, use toxaphene, but allow 28 days between last grazing and slaughter, or 42 days if the animals are being sprayed with toxaphene. For dairy pastures, use 1 1/2 pounds of Sevin or 2 pounds of methoxychlor per acre. Sevin has no waiting period, but do not graze cattle for 7 days when using methoxychlor.

Grasshoppers are beginning to hatch in the southern half of Illinois. Check for this pest in ditchbanks, roadsides, fence rows, grass waterways and similar areas. If they are present in large numbers, plan to apply 1/8 pound of dieldrin or 1 1/2 pounds of toxaphene to areas where the crop will not be grazed or used as hay for dairy cattle or fattening livestock.

Some grasshoppers are also hatching in clover fields. The peak of this hatch will probably occur in about two weeks in southern and central Illinois and three weeks in northern Illinois if the weather continues unseasonably warm. Check your hay fields shortly after the first cutting. If small grasshoppers are abundant (six or more per square yard), apply 3/4 pound of Sevin or 1 pound of malathion per acre. No interval is required between treatment with Sevin and harvest as hay or pasture. A 7-day period between treatment and harvest is required for malathion.

Corn borers are developing about one week earlier than usual throughout most of Illinois. Some moths have emerged as far north as central Illinois this week. It is still too early to judge accurately, but it appears now that only a few of the most advanced fields may have damaging infestations.

Flea beetles are feeding on corn in southern Illinois. No damage has been observed. However, if there are fields where plants are being killed by this insect, apply 1 1/2 pounds of DDT per acre.

Leafhoppers are tiny green wedge-shaped insects that suck sap from alfalfa plants. Plants that are severely attacked may turn yellow to purple and are often stunted, decreasing the quality and quantity of hay. Populations are [illegible]

alfalfa fields in a triangular area from St. Louis to Quincy to Springfield. Watch second-growth alfalfa, and if these green gnat-like insects are noticeably abundant, apply 1 pound of methoxychlor or 1 pound of malathion per acre. Allow one week between treatment and harvest as hay or pasture.

Bagworms are hatching in many areas of the state. Small bagworms are readily controlled, but as they grow larger they become increasingly difficult to kill. For a spray, use 2 teaspoons of malathion emulsifiable concentrate, 3 teaspoons of toxaphene concentrate, or 1 tablespoon of lead arsenate per gallon of water. Do not apply malathion to Cannart juniper.

Mimosa webworms are present in southern Illinois and are feeding on mimosa and honey locust. Use a spray of 1 tablespoon of lead arsenate per gallon of water. Repeat applications may be necessary during the summer.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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FOR IMMEDIATE RELEASE June 1, 1962

INSECT SURVEY BULLETIN NO. 7

These weekly bulletins, prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies, report general trends in insect populations in Illinois (fruit insects excepted). Check your own fields to determine local conditions.

Grasshoppers may become our most serious field crop insect pest of 1962. Hatch is progressing rapidly in the south half of Illinois, particularly along the east side, and will very likely occur throughout much of northern Illinois within the next few weeks. Although rains of the past week may have killed some of the small 'hoppers that had already hatched, there are plenty more yet to hatch.

Last fall, adult grasshoppers apparently laid eggs not only in roadsides, ditch banks, grass waterways and similar areas, but in alfalfa and clover fields as well, and small 'hoppers are present over entire hay fields. In some instances, corn or soybeans planted on sod are evenly infested throughout the entire field. Also, this week small grasshoppers began migrating from fence rows into marginal rows of beans and corn.

Apply 1/8 lb. of dieldrin or 1 1/2 lb. of toxaphene to fence rows, ditch banks, roadsides, diverted acres and similar areas where the crop will not be grazed or used as hay for dairy animals or livestock fattening for slaughter. Dieldrin, 1 oz., or toxaphene, 1 1/2 lb. per acre, can be used on corn or soybeans where necessary.

Check hay fields for grasshoppers. If there are six or more 'hoppers per square yard, plan to treat soon. If possible, cut the crop and spray fence rows and new growth right away.

For hay crops, use 1 lb. of malathion or 3/4 lb. of Sevin per acre. Allow one week to elapse between application of malathion and grazing or cutting. No interval is required with Sevin. Diazinon can be used on alfalfa only, at 1/2 lb. per acre, with a 7-day interval between application and harvest. Dibrom, a comparatively new insecticide, can be used on alfalfa or red clover hay or pasture. Allow 4 days to elapse between treatment and harvest.

Above all, be aware of the possibility of grasshoppers. Control them while they are small and easily killed and before they migrate over the entire farm and do considerable damage.

Black cutworms damaged cornfields this past week in western and eastern Illinois, and more spotted damage will probably occur this week. These insects are usually a problem in low spots in corn fields, as the moths prefer to lay their eggs in wet spots. The worms, after cutting the corn in these places, migrate into the rest of the field. Oftentimes infestations may be spotted over the entire field.

If the stand is worth saving, apply 1/2 lb. of dieldrin, 1/4 pound of endrin or 3 pounds of toxaphene per acre; use as much water per acre as possible. Concentrate the spray at the base of the plants. Cultivate right away, throwing dirt into the row on top of the sprayed strip. If replanting is necessary, broadcast, prior to planting, no less than 2 lb. of aldrin or heptachlor (preferably 3) or 1 lb. of dieldrin, and disk in immediately.

Chinch bugs can be found in small numbers in thin wheat in eastern Illinois. Populations are not high, but minor migrations from these fields may occur during the next three weeks as the wheat ripens. Use 1/2 lb. of dieldrin in the wheat field margins as migrations begin.

Armyworms can be found in luxuriant wheat and grasses. No heavy concentrations have been observed, but they are usually difficult to find until damage occurs. Examine luxuriant growths of grasses and grains. If there is an average of six worms (1/2 inch or longer) or more per linear foot of drill row, treatment will be profitable. Toxaphene, 1 1/2 lb., or dieldrin, 1/4 lb. per acre, is recommended for small grains. Allow 7 days between treatment with dieldrin and harvest and 7 days for toxaphene on wheat, but 14 days on barley.

For beef pastures, use toxaphene, but allow 28 days between last grazing and slaughter, or 42 days if the animals are being sprayed with toxaphene. For dairy pastures, use 1 1/2 lb. of Sevin or 2 lb. of methoxychlor per acre. Sevin has no waiting period, but do not graze cattle for 7 days when using methoxychlor.

Bean leaf beetles are now feeding on soybeans. In an occasional field 20 to 50 percent of the leaf surface of the new leaves has been eaten. If stands are being depleted, apply 1 1/2 lb. of DDT, 1/4 lb. of dieldrin or 1 1/2 lb. of toxaphene per acre if needed to protect the stand. Beans ordinarily grow away from this leaf feeding, however.

Corn borer development continues to be earlier than normal. However, a measurable percentage of overwintering borers are just now pupating. This small percentage of late-developing borers will not emerge and lay eggs for almost three weeks. At this time the most advanced field corn will provide excellent survival of small borers. Such fields should be checked for borer infestations in 2 to 3 weeks.

Sweet corn, particularly early market garden corn, should be treated for borer control as soon as eggs are found hatching. With early-emerging moths already flying, these advanced fields will be particularly attractive for egg laying, and the moths will concentrate in these fields.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Research Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

6/1/62

FOR IMMEDIATE RELEASE June 8, 1962

INSECT SURVEY BULLETIN NO. 8

These weekly bulletins, prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies, report general trends in insect populations in Illinois (fruit insects excepted). Check your own fields to determine local conditions.

Grasshopper populations are about the same as they were last week. They are not so numerous in the southern 1/3 of the state as in the northern 2/3, and even here the infestations are spotted. In some areas there are only a few, but in many others they are extremely abundant in fence rows, ditch banks and similar areas.

The next few weeks will be important in determining survival. Hard, beating rains would kill the small 'hoppers.

Examine diverted acres, fence rows, ditch banks, grass waterways, roadsides, and similar areas. If small 'hoppers are extremely numerous, apply 1/8 lb. of dieldrin or 1 1/2 lb. of toxaphene to areas that will not be grazed or used as hay for dairy animals or livestock fattening for slaughter.

Check hay fields soon after cutting. If 'hoppers are feeding in new growth, use 1 lb. of malathion or 3/4 to 1 1/2 lb. of Sevin. (From now on the rate of Sevin depends on the size of the grasshoppers.) Allow one week to elapse between application of malathion and grazing or cutting. No interval is required with Sevin. Diazinon can be used on alfalfa only, at 1/2 lb. per acre, with a 7-day interval between application and harvest. Dibrom, a comparatively new insecticide, can be used on alfalfa or red clover hay or pasture. Allow 4 days to elapse between treatment and harvest.

Grasshoppers are easier to control and the cost is lower when they are small and concentrated in limited areas than when they are almost full grown and are scattered over entire fields.

Black cutworm damage to corn is now being reported in northern Illinois. If the stand is worth saving, apply 1/2 lb. of dieldrin, 1/4 pound of endrin or 3 pounds of toxaphene per acre; use as much water per acre as possible. Concentrate the spray at the base of the plants. Cultivate right away, throwing dirt into the row on top of the sprayed strip.

Corn borer emergence is earlier than it has been for the past few years, but corn development is also a few days earlier. Egg laying started in field corn this week and will probably continue for the next 10 days to two weeks in central and northern Illinois.

Observe particularly advanced fields for the next few weeks, as borers could concentrate there.

Sweet corn, particularly early market, should be treated as soon as borer eggs begin hatching. In many areas hatch has already occurred, and whorl and early tassel feeding is evident.

Bagworms are becoming noticeable in central and southern Illinois. Treat immediately for control. Use 1 tablespoon of lead arsenate, 2 teaspoons of malathion concentrate or 3 teaspoons of toxaphene concentrate per gallon of water. Do not treat Cannart juniper with malathion.

A new generation of face flies are now present on cattle, and they are already beginning to lay eggs for another generation. Start to control them now.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Research Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:dl
6/8/62

FOR IMMEDIATE RELEASE June 15, 1962

INSECT SURVEY BULLETIN NO. 9

These weekly bulletins, prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies, report general trends in insect populations in Illinois (fruit insects excepted). Check your own fields to determine local conditions.

Grasshoppers: The situation remains spotted, varying greatly from one locality to another, and requires separate evaluations. Here are some general field observations:

A correction on last week's bulletin: Grasshoppers are abundant in southern Illinois. Although infestations are not so general there as in other areas of the state, the problem apparently is severe where they are present.

Hatch from overwintering eggs is probably near an end in south and south-central Illinois, is still going on in central Illinois and has just started in northern Illinois. Hard, beating rains during the next 10 days may help to control the small grasshoppers. No evidence of grasshopper diseases has been seen.

Hard rains a week ago probably killed many 'hoppers, making the infestation more spotted and difficult to outline.

In many areas grasshoppers are still very small and difficult to see. Close examination is required to detect them.

Grasshoppers were abundant in soybean fields in many places last August and September, and in some cases deposited eggs there. Small 'hoppers are now feeding on crops planted in these fields. Noticeable feeding and damage were observed this week in both soybeans and corn following soybeans.

Grasshoppers are now hatching in hay fields where the first cutting has been removed and the second growth is several inches tall. They will remain until the second crop is cut and then migrate to adjacent crops.

In many localities, roadsides, fence rows, grass waterways, ditch banks, and similar areas have high concentrations of small grasshoppers that are migrating now into field margins of soybeans, corn and new seedings.

Applying chemicals when grasshoppers are small provides better control with less chemical than when treatments are made later.

If small 'hoppers are extremely numerous in diverted acres, fence rows, ditch banks, grass waterways, roadsides, and similar areas, apply 1/8 lb. of dieldrin or 1 1/2 lb. of toxaphene to areas that will not be grazed or used as hay for dairy animals or livestock fattening for slaughter. Aldrin or heptachlor can also be used in these areas at 1/4 lb. per acre.

If treating hay crops or pastures, use 1 lb. of malathion or 3/4 to 1 1/2 lb. of Sevin. (From now on, the rate of Sevin depends on the size of the grasshoppers.) Allow one week to elapse between application of malathion and grazing or cutting. No interval is required with Sevin. Diazinon can be used on alfalfa only, at 1/2 lb. per acre, with a 7-day interval between application and harvest. Dibrom, a comparatively new insecticide, can be used on alfalfa or red clover hay or pasture. Allow 4 days to elapse between treatment and harvest.

For corn or soybeans, apply 1 or 2 ounces of dieldrin or 1 1/2 lb. of toxaphene. To protect seedings in small grain, apply 2 ounces of dieldrin or 1 1/2 lb. of toxaphene. Do not treat within one week of harvest of the grain.

Corn borer moth emergence is complete in central Illinois and is almost complete in northern Illinois. Egg-laying, which had been progressing rapidly, has practically stopped with the cool nights of this past week, but will proceed rapidly as soon as night temperatures approach 60 degrees or above.

A few fields in the area north of a line from Hoopeston to Bloomington to Springfield to Quincy and south of Highway 6 may need treatment. However, these are only the most advanced fields; the slightly later fields will need no protection. Although moths are still laying eggs, they will scatter them over many fields rather than concentrate in a few. North of Highway 6, however, there is still a possibility that egg-laying may be concentrated in some of the most advanced fields.

If treatment is needed, it will probably be between June 20 and 27 in central and north-central Illinois and between June 24 and June 30 in northern Illinois. The timing will depend on how soon the remaining moths deposit their eggs.

To determine need for treatment, examine 50 to 100 plants for signs of borer feeding on the whorl leaves. If 75 percent or more of the plants show recent whorl feeding, check the tassel ratio. Measure from the base to the tip of the plant with the leaves extended. Split the plant lengthwise, and measure from the base of the plant to the tip of the developing tassel. Divide tassel height by plant height, and multiply by 100. Take an average for five representative plants per field. This is the tassel ratio. The corn will warrant treatment if the tassel ratio is 30 or above, but if possible do not treat until the ratio is at least 35 and preferably 45. However, treatment after borers have drilled into the stalk proper will not be effective.

DDT is still the most common insecticide for corn borer. Apply 1 1/2 pounds per acre as a spray or 3/4 to 1 pound per acre as granules.

Other insecticides approved for use against corn borer are endrin and toxaphene. Do not feed ensilage or stover of corn treated with DDT or toxaphene to dairy cattle. Endrin may be used provided label restrictions are followed.

Flies. House fly populations are increasing rapidly, and buildup of maggots in manure has begun. Start good sanitation practices now and use residual barn sprays of diazinon, ronnel, dimethoate, or Baytex (for beef barns only). Supplement the overall spraying later with a spray bait of the same percent of chemical, but use a base of 2 parts corn sirup to 1 part water.

Horn flies and stable flies are becoming numerous on cattle. For dairy cattle, apply 1 to 2 ounces daily of an oil base spray containing tabatrex, R-326, or DDVP daily. For beef cattle, spray every 3 or 4 weeks with 0.5% toxaphene water-base spray at the rate of 1 to 2 quarts per animal. Allow 28 days between treatment and slaughter when using toxaphene.

Stored-grain insects. With wheat harvest just around the corner, stored-grain insects hidden in empty bins are preparing for the big feast. Prevent damage from these pests by sweeping up and cleaning out all old grain and other debris

inside and around the bin. Then spray all inside surfaces to run-off with a 1.5% premium-grade malathion or 2.5% methoxychlor. Also treat the wheat, as it is being binned, with a liquid or dust form of premium-grade malathion. These three steps will insure insect-free wheat for a year or more.

Caution: Before applying insecticides, read the labels carefully, and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by entomologists of the Illinois Agricultural Extension Service and Illinois Natural History Survey in cooperation with the USDA Agricultural Research Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:bm
6/14/62

FOR IMMEDIATE RELEASE June 22, 1962

INSECT SURVEY BULLETIN NO. 10

These weekly bulletins, prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies, report general trends in insect populations in Illinois (fruit insects excepted). Check your own fields to determine local conditions.

Grasshoppers: The situation has changed little during the past week. A few scattered rainstorms may have killed some small grasshoppers, but these rains were not widespread. Grasshopper populations vary from one locality to another, and each individual should evaluate his own problem. There are areas where insecticide control is not necessary, but there are other areas where applications should be made very soon. If grasshoppers were moderate to abundant in your area last year, check carefully for small 'hoppers now.

Many home owners have reported heavy infestations in lawns and gardens. For this purpose use 2 teaspoons of malathion emulsifiable concentrate per gallon of water. Spray these areas liberally, and observe the interval between application and harvest of vegetables listed on the container. If only the lawn is to be sprayed, you can use aldrin, dieldrin, heptachlor or toxaphene, which will last longer than malathion.

If small 'hoppers are extremely numerous in diverted acres, fence rows, ditch banks, grass waterways, roadsides and similar areas, apply 1/8 lb. of dieldrin or 1 1/2 lb. of toxaphene to areas that will not be grazed or used as hay for dairy animals or livestock fattening for slaughter. Aldrin or heptachlor can also be used in these areas at 1/4 lb. per acre.

If treating hay crops or pastures, use 1 lb. of malathion or 3/4 to 1 1/2 lb. of Sevin. (From now on, the rate of Sevin depends on the size of the grasshoppers.) Allow one week to elapse between application of malathion and grazing or cutting. No interval is required with Sevin. Diazinon can be used on alfalfa only, at 1/2 lb. per acre, with a 7-day interval between application and harvest. Dibrom, a comparatively new insecticide, can be used on alfalfa or red clover hay or pasture. Allow 4 days to elapse between treatment and harvest. Toxaphene, 1 1/2 lb. per acre, can be used on permanent pastures only, and for beef cattle only. If toxaphene is also being applied to the cattle for fly control, allow 42 days to elapse between last grazing and slaughter. Do not graze dairy animals on toxaphene-treated forage or pasture.

For corn or soybeans, apply 1 or 2 oz. of dieldrin or 1 1/2 lb. of toxaphene. To protect seedings in small grain, apply 2 oz. of dieldrin or 1 1/2 lb. of toxaphene. Do not treat within one week of harvest of the grain except for toxaphene on barley, when a two-week interval is required.

Corn borer: Moths are still depositing eggs in north-central and northern Illinois. An occasional very advanced field warrants treatment. In north-central Illinois these fields should be treated right away. In northern Illinois, where eggs are still being laid, treatment, where needed, may be made as late as the first few days in July.

To determine need for treatment, examine 50 to 100 plants for signs of borer feeding on the whorl leaves. If 75 percent or more of the plants show recent whorl feeding, check the tassel ratio. Measure from the base to the tip of the plant with the leaves extended. Split the plant lengthwise, and measure from the base of the plant to the tip of the developing tassel. Divide tassel height by plant height, and multiply by 100. Take an average for five representative plants per field. This is the tassel ratio. The corn will warrant treatment if the tassel ratio is 30 or above, but if possible do not treat until the ratio is at least 35 and preferably 45. However, treatment after borers have drilled into the stalk proper will not be effective.

DDT is still the most common insecticide for corn borer. Apply 1 1/2 lb. per acre as a spray or 3/4 to 1 lb. per acre as granules.

Other insecticides approved for use against corn borer are endrin and toxaphene. Do not feed ensilage or stover of corn treated with DDT or toxaphene to dairy cattle. Endrin may be used provided label restrictions are followed.

Chinch bugs, although not generally present, are migrating from wheat to corn in a few instances in eastern Illinois. Where this is occurring, apply 1/2 lb. of dieldrin per acre to a strip of grain a few rods wide and into the corn as far as the bugs are doing damage. Do not harvest treated grain for one week after treatment.

Stable flies on cattle may be more severe this year than for the past several years. For dairy cattle, apply 1 to 2 oz. daily of an oil-base spray containing tabatrex, R-326, or DDVP daily. For beef cattle, spray every 3 or 4 weeks with 0.5% toxaphene water base spray at the rate of 1 to 2 qt. per animal. Allow 28 days between treatment and slaughter when using toxaphene.

Caution: Before applying insecticides, read the labels carefully, and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Research Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:dl
6/22/62

FOR IMMEDIATE RELEASE June 29, 1962

INSECT SURVEY BULLETIN NO. 11

These weekly bulletins, prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies, report general trends in insect populations in Illinois (fruit insects excepted). Check your own fields to determine local conditions.

Grasshoppers: Populations still vary greatly from one area to another. The only new development this week took place in the northern third of Illinois, where grasshoppers started hatching in large numbers in clover and alfalfa fields. These tiny 'hoppers are very difficult to see and can easily be overlooked. However, within a few weeks they will become more apparent.

Hard, beating rains can still help control grasshoppers now, but will be of little help later. No signs of grasshopper diseases or parasites have been observed.

If small'hoppers are extremely numerous in diverted acres, fence rows, ditch banks, grass waterways, roadsides and similar areas, apply 1/8 lb. of dieldrin or 1 1/2 lb. of toxaphene to areas that will not be grazed or used as hay for dairy animals or livestock fattening for slaughter. Aldrin or heptachlor can also be used in these areas at 1/4 lb. per acre.

If treating hay crops or pastures, use 1 lb. or malathion or 3/4 to 1 1/2 lb. of Sevin. (From now on, the rate of Sevin depends on the size of the grasshoppers.) Allow one week to elapse between application of malathion and grazing or cutting. No interval is required with Sevin. Diazinon can be used on alfalfa only, at 1/2 lb. per acre, with a 7-day interval between application and harvest. Dibrom, a comparatively new insecticide, can be used on alfalfa or red clover hay or pasture. Allow 4 days to elapse between treatment and harvest. Toxaphene, 1 1/2 lb. per acre, can be used on permanent pastures only, and for beef cattle only. If toxaphene is also being applied to the cattle for fly control, allow 42 days to elapse between last grazing and slaughter. Do not graze dairy animals on toxaphene-treated forage or pasture.

For corn or soybeans, apply 1 or 2 oz. of dieldrin or 1 1/2 lb. of toxaphene. To protect seedings in small grain, apply 2 oz. of dieldrin or 1 1/2 lb. of toxaphene. Do not treat within one week of harvest of the grain except for toxaphene on barley, when a two-week interval is required.

Corn borer: Egg laying is about complete except in northern Illinois. Extremely advanced field corn in this area warranting treatment may still be treated this week, but in most areas of Illinois it is too late for maximum control, since borers are beginning to enter the stalk.

To determine need for treatment, examine 50 to 100 plants for signs of borer feeding on the whorl leaves. If 75 percent or more of the plants show recent whorl feeding, check the tassel ratio. Measure from the base to the tip of the plant with the leaves extended. Split the plant lengthwise, and measure from the base of the plant to the tip of the developing tassel. Divide tassel height by plant height, and multiply by 100. Take an average for five representative plants per

field. This is the tassel ratio. The corn will warrant treatment if the tassel ratio is 30 or above, but if possible do not treat until the ratio is at least 35 and preferably 45. However, treatment after borers have drilled into the stalk proper will not be effective.

DDT is still the most common insecticide for corn borer. Apply 1 1/2 lb. per acre as a spray or 3/4 to 1 lb. per acre as granules.

Other insecticides approved for use against corn borer are endrin and toxaphene. Do not feed ensilage or stover of corn treated with DDT or toxaphene to dairy cattle. Corn treated with DDT granules may be used as ensilage or stover for fattening cattle provided they are removed from the treated forage 90 days prior to slaughter. Endrin may be used provided label restrictions are followed.

Armyworms: A few newly hatched to almost full-grown worms were found on luxuriant grasses in northern Illinois this week. They may also be present in grassy spots in corn fields. Normally high temperature promotes a disease of armyworms and keeps their numbers at non-economic levels in Illinois during the summer months.

Face flies: Populations are increasing steadily now. Observe cattle in the pasture, not in the buildings, to find out how abundant these flies are. Make counts on clear days between 10:00 a.m. and 3:00 p.m.

To control these flies on dairy cattle, brush DDVP sirup baits on their foreheads.

Beef producers with cattle on pasture should keep backrubbers well saturated with 5% toxaphene in oil. Allow 30 days to elapse between application of toxaphene to beef cattle and slaughter. Toxaphene cannot be used on dairy cattle.

Stable flies and horn flies are becoming more abundant. For dairy cattle, apply 1 to 2 oz. daily of an oil-base spray containing DDVP or pyrethrin sprays with tabatrex or R-326. For beef cattle, spray every 3 or 4 weeks with 0.5% toxaphene water-base spray at the rate of 1 to 2 qt. per animal. Allow 28 days between treatment and slaughter when using toxaphene.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Research Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:dl
6/29/62

FOR IMMEDIATE RELEASE July 6, 1962

INSECT SURVEY BULLETIN NO. 12

These weekly bulletins, prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies, report general trends in insect populations in Illinois (fruit insects excepted). Check your own fields to determine local conditions.

Grasshoppers: Hard, beating rains, particularly in northern Illinois, where grasshoppers are still small, may have helped to reduce the grasshopper problem this week. Farther south, where 'hoppers were larger, rains may not have been so beneficial. Check closely for the next few weeks to determine the situation. Typical areas to check are clover, alfalfa and grass sods, grass waterways, ditch banks and similar areas.

Grasshoppers will soon be migrating in numbers to soybeans and corn in the southern part of the state. If they are abundant in grain and legume fields, be prepared to protect adjacent bean and corn fields. In some instances they may damage only marginal rows; in other instances they may damage the entire field.

If 'hoppers are extremely numerous in diverted acres, fence rows, ditch banks, grass waterways, roadsides and similar areas, apply 1/8 lb. of dieldrin, 1 1/2 lb. of toxaphene, 1/4 lb. of aldrin or 1/4 lb. of heptachlor to areas that will not be grazed or used as hay for dairy animals or livestock fattening for slaughter.

When treating hay crops or pastures, use 3/4 lb. of dibrom, 1 lb. of malathion or 1 to 1 1/2 lb. of Sevin per acre. (Grasshoppers in many areas are now over half-grown, so the rate of Sevin should be increased.) Allow 4 days to elapse between treatment with dibrom and harvest and one week with malathion. No interval is required with Sevin when used on hay or pasture or with dibrom when used on pasture. Diazinon, 1/2 lb. per acre, can be used on alfalfa for hay with a 7-day interval between treatment and harvest. Toxaphene, 1 1/2 lb. per acre, can be used on permanent pastures only, and for beef cattle only. If toxaphene is also being applied to the cattle to control flies, allow 42 days to elapse between last grazing on treated pasture and slaughter. Do not graze dairy animals on toxaphene-treated forage or pasture.

Our Illinois recommendations and precautions for insecticides used on forage and hay crops are conservative. In some instances labels are more generous than our recommendations, but may be followed if desired. For example, a single treatment of 1 ounce of dieldrin may be applied to hay crops to control grasshoppers, but not after the new growth is 6 to 8 inches tall or within 35 days of harvest. This procedure must be followed exactly to prevent illegal residues on hay crops.

To protect seedings in small grain, apply 1/8 lb. of dieldrin or 1 1/2 lb. of toxaphene. Do not treat within one week of harvest of the grain; with toxaphene on barley, however, allow a two-week interval. To protect corn or soybeans, apply 1/8 lb. of dieldrin or 1 1/2 lb. of toxaphene per acre. Do not apply toxaphene to corn or soybeans to be used for hay, ensilage or stover for dairy cattle or animals being finished for slaughter. Up to 1/4 lb. of dieldrin may be applied to corn or soybeans provided there is an interval of 60 days between application and harvest or feeding to livestock.

The mimosa webworm, a relatively new pest in Illinois, has partly defoliated mimosa and honey locust in some areas in southern Illinois. These gray to brown worms build nests in which they skeletonize the leaves. A second generation is expected to develop during the next two months. If the worms are still small, apply 2 teaspoons of either 57% malathion concentrate or 60% toxaphene, or 1 tablespoon of lead arsenate per gallon of water. Combining malathion and lead arsenate has proved very effective in controlling this pest.

Face flies have been slower to build up this year than last. Although infestations are still spotted, and are light in southern Illinois, populations are expected to increase throughout the remainder of the summer, particularly in the northern 2/3 of the state.

For dairy cattle, brush DDVP sirup bait on the foreheads each morning in a strip about 1 inch wide and 6 inches long. The same bait can be further diluted with water so that it will pass through a small hand sprayer. Hold the hand sprayer about 1 foot from the cow's head and apply 1/5 of an ounce (1 to 2 strokes) to each animal after the morning milking. Loose-housed cattle are more difficult to treat, but good control can be obtained by spraying twice the amount on the sides and backs of these animals.

DO NOT USE DDVP SIRUP BAITS LEFT OVER FROM LAST YEAR. They will be ineffective and will increase the problem by attracting more flies to the animals.

For beef cattle, use backrubbers charged with 5.0% toxaphene, preferably in a mineral oil base although No. 2 fuel oil can also be used. Place the backrubber where it will get the most use. Allow 30 days between treatment and slaughter of beef animals treated with toxaphene. Do not use toxaphene on dairy cattle.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty and Steve Moore, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Research Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:bb
7/6/62

In 7

FOR IMMEDIATE RELEASE July 13, 1962

INSECT SURVEY BULLETIN NO. 13

These weekly bulletins, prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies, report general trends in insect populations in Illinois (fruit insects excepted). Check your own fields to determine local conditions.

Grasshoppers: The situation remains about the same as in the past few weeks except that the grasshoppers are growing larger. Hatching is complete or nearly so in the southern two-thirds of the state; it is well started in the northern third and will probably be complete within the next week to ten days.

At present grass and legume fields are more severely infested than other crops, and as long as there is sufficient food for the 'hoppers they will remain in these fields. Inspect hay crop fields. When defoliation occurs or the hay is cut, the 'hoppers will migrate in search of food. Soybeans, corn or any other green food will be attacked.

Our recommendations for control are: For areas that will not be grazed or used as hay for dairy cattle or livestock fattening for slaughter, use 1/8 lb. of dieldrin, 1 1/2 lb. of toxaphene, 1/4 lb. of aldrin or 1/4 lb. of heptachlor per acre. This includes such areas as roadsides, diverted acres, etc.

On pastures for dairy animals or beef cattle, use 3/4 lb. of dibrom or 1 to 1 1/2 lb. of Sevin per acre. No interval is required between application and grazing. For pastures to be grazed only by beef cattle, use 1 1/2 lb. of toxaphene. If toxaphene is also being applied to the cattle to control flies, allow 42 days between last grazing on treated pasture and slaughter. Do not graze dairy animals on toxaphene-treated forage or pasture.

For hay crops, apply 3/4 lb. of dibrom, 1 lb. of malathion or 1 to 1 1/2 lb. of Sevin per acre. No interval between application and harvest is required for Sevin. Allow 4 days when using dibrom and 7 days for malathion. Diazinon, 1/2 lb. per acre, can be used on alfalfa, with 7 days between application and harvest. A single treatment of 1 oz. of dieldrin per acre may be applied to hay crops, but not after the new growth is over six to eight inches high or within 35 days of harvest.

For corn or soybeans, apply 1/8 lb. of dieldrin or 1 1/2 lb. of toxaphene per acre. Do not apply toxaphene to corn or soybeans to be used for hay, ensilage or stover for dairy cattle or animals being finished for slaughter. Dieldrin, 1/8 lb. per acre, can be applied to corn to within 40 days of harvest or ensiling and to soybeans to within 60 days of harvest or feeding. One ounce of dieldrin per acre may be applied to soybeans to within 35 days of harvest or feeding.

Black cutworms: We received one report of damage to corn this past week. At this stage of corn growth, black cutworms hollow out the stalk below ground level. The first symptom of damage is wilting and dying of stalks in low wet spots in fields. With severe infestations this damage becomes quite noticeable on the first hot day. If control becomes necessary, direct the spray at the base of the plant and use 3 lb. of toxaphene or 1/2 lb. of dieldrin per acre. The greater the quantity of water you use, the better the results will be.

Blister beetles are numerous this year. The larvae (immature stage) feed on grasshopper eggs, and their food supply was abundant this year.

Corn borer pupation has begun in central Illinois. This start is earlier than normal and a few borer moths may be laying eggs in about 10 days to two weeks.

Leafhoppers are damaging alfalfa in western Illinois north of St. Louis and south of Galesburg. The yellowing and stunting of alfalfa is caused by the feeding of these tiny green insects. After damage becomes evident, control of leafhoppers will not help the plants recover because the stunting is caused by the toxic effect of the leafhopper feeding. After the hay is cut, adults usually migrate, and the third growth of alfalfa will be normal.

Face flies are definitely becoming more abundant. For dairy cattle, brush DDVP sirup bait on the foreheads each morning in a strip about 1 inch wide and 6 inches long. The same bait can be further diluted with water so that it will pass through a small hand sprayer. Hold the hand sprayer about 1 foot from the cow's head, and apply 1/5 of an ounce (1 to 2 strokes) to each animal after the morning milking. Loose-housed cattle are more difficult to treat, but good control can be obtained by spraying twice the amount on the sides and backs of these animals.

For beef cattle, use backrubbers charged with 5.0% toxaphene, preferably in a mineral oil base, although a No. 2 fuel oil can also be used. Place the backrubber where it will get the most use. Allow 30 days between treatment and slaughter of beef animals treated with toxaphene. Do not use toxaphene on dairy cattle.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

FOR THE INFORMATION OF DAILY NEWSPAPERS, particularly in areas where Japanese beetles are present. We have had several requests for pictures of Japanese beetles and methods of identifying them. Drs. H. H. Ross and M. W. Sanderson of the Insect Identification Section of the Illinois Natural History Survey are preparing an article with pictures on identification of the Japanese beetle, as well as its life history and feeding habits. You should receive this within the next week.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Research Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:dl
7/13/62

FOR IMMEDIATE RELEASE July 20, 1962

INSECT SURVEY BULLETIN NO. 14 JUL 23 1962

These weekly bulletins, prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies, report general trends in insect populations in Illinois (fruit insects excepted). Check your own fields to determine local conditions.

Grasshoppers: Now that grasshopper and their feeding damage are becoming more apparent, we are receiving questions on various insecticides, rates of application, length of effective control and speed of kill.

There are some insecticides that we do not recommend but that do have label approval for grasshopper control. When using materials not listed in our recommendations or for crops not listed, be sure you are using directions that are not several years old.

The amount of an insecticide that can be used per acre may vary, and in some instances lower rates than we recommend may give good control. Our recommendations are made with the thought that the user will obtain good consistent control over a wide range of grasshopper sizes, conditions and crops. Even then there will be occasional failures under adverse conditions. Too low dosage rates will lead to more failures when conditions are unfavorable. It is cheaper to use enough the first time than to have to do the job over.

Dieldrin, toxaphene and Sevin kill grasshoppers slowly. Do not evaluate control for 2 to 4 days after treatment. Dieldrin and toxaphene provide control for several days after application; Sevin, for only a few days. Diazinon, dibrom and malathion kill a high percentage of 'hoppers within 24 to 36 hours, and the control increases only slightly thereafter.

Our recommendations for control are: For areas that will not be grazed or used as hay for livestock, use 1/8 lb. of dieldrin, 1 1/2 lb. of toxaphene, 1/4 lb. of aldrin or 1/4 lb. of heptachlor per acre. This includes such areas as roadsides, diverted acres, etc.

On pastures for dairy animals and beef cattle, use 3/4 lb. of dibrom or 1 to 1 1/2 lb. of Sevin per acre. No interval is required between application and grazing. (Note: To clarify this rate, 1 lb. of Sevin has given good control except in one instance where control was extremely difficult and 1 1/2 lb. was required.)

For pastures to be grazed only by beef cattle, use 1 1/2 lb. of toxaphene. If toxaphene is also being applied to the cattle to control flies, allow 42 days between last grazing on treated pasture and slaughter. Do not graze dairy animals on toxaphene-treated forage or pasture.

For hay crops, apply 3/4 lb. of dibrom, 1 lb. of malathion or 1 to 1 1/2 lb. of Sevin per acre. No interval between application and harvest is required for Sevin. Allow 4 days when using dibrom and 7 days for malathion. Diazinon, 1/2 lb. per acre, can be used on alfalfa, with 7 days between application and harvest. A single treatment of 1 oz. of dieldrin per acre may be applied to hay crops, but not after the new growth is over six to eight inches high or within 35 days of harvest.

For corn or soybeans, apply 1/8 lb. of dieldrin or 1 1/2 lb. of toxaphene per acre. Do not apply toxaphene to corn or soybeans to be used for hay, ensilage or stover for dairy cattle or animals being finished for slaughter. Dieldrin, 1/8 lb. per acre, can be applied to corn to within 40 days of harvest or ensiling and to soybeans to within 60 days of harvest or feeding. One ounce of dieldrin per acre may be applied to soybeans to within 35 days of harvest or feeding.

All of these insecticides can be used on lawns for grasshopper control. One ounce of actual dieldrin (5 fluid ounces of 15% concentrate) per 10,000 square feet will control them and provide residual control. For gardens, Diazinon, dibrom, malathion or Sevin can be used. Read the label for interval between application and harvest of vegetables.

Armyworms: A few worms have been reported in northern Illinois in luxuriant stands of oats and grasses. Some infestations may appear in corn where grass is abundant. One-fourth pound of dieldrin may be used to control armyworms in corn. Do not treat within 60 days of harvest or cutting for ensilage. Toxaphene, 1 1/2 lb. per acre, may be used on corn that is not to be used for ensilage or stover.

Use 1/4 lb. of dieldrin on oats, but allow one week between application and harvest. Do not feed or graze the straw for 30 days after treatment. Toxaphene may also be used on oats with one week between application and harvest. Do not feed the straw to dairy animals or livestock fattening for slaughter.

If hay crops need treatment before cutting, apply 1 1/2 lb. of Sevin or 1 lb. of malathion per acre. No interval between application and harvest is required with Sevin; one week is needed for malathion. Methoxychlor will not kill the worms but will stop them from feeding; use 1 1/2 to 2 lb. per acre, and allow one week between application and harvest or pasture.

Corn borer pupation this week has reached 50%, with only slight emergence of moths. Pupation of first-generation borers may reach almost 100% this year compared with 50 to 75% in an average year. Thus we can expect some increase in second-generation corn borer this year compared with the past five years. Egg laying will probably start in central Illinois this week. Sweet corn growers, particularly canners, should watch fields that are 15 days or more from harvest.

Crickets: Large numbers are developing in fields this year. If they begin to migrate, last year's invasion of crickets may be repeated. If migration occurs, apply 2% chlordane or 1/2% dieldrin around the foundation of the house and around doorways. Follow label precautions in handling insecticide concentrates.

A bristly brown and orange caterpillar with no common name may be present in moderate numbers in late-maturing corn. This insect is a general feeder, eating the leaves and giving the plant a ragged appearance. Control is usually not necessary, since wasp parasites ordinarily control this insect.

Caution: Before applying insecticides, read the labels, carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with USDA Agricultural Research Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

7/20/62

FOR IMMEDIATE RELEASE July 27, 1962

INSECT SURVEY BULLETIN NO. 15

These weekly bulletins, prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies, report general trends in insect populations in Illinois (fruit insects excepted). Check your own fields to determine local conditions.

Corn borer numbers may increase more in some areas this year than we anticipated in last week's report. We are now surveying to determine the abundance of the first-generation borer and the percentage that are pupating to form the second generation. In some counties both the population and the percentage that are pupating are high enough to indicate a moderately high second generation. It appears now that this area may be northward almost to the state line from a line extending across the state through Bloomington and Peoria. We will complete our survey this coming week, and we hope to present a more accurate picture in next week's report.

Moths have been emerging for about a week to ten days in central and north-central Illinois. No emergence was recorded this week in northern Illinois. Moths have begun to lay eggs, and some hatch has occurred.

Observe sweet corn fields that are 10 or more days from harvest, and be prepared to treat at first egg hatch. Late field corn may warrant treatment if there are 100 or more egg masses per 100 plants. Use 1 1/2 lb. of DDT per acre on corn for grain,but do not apply to corn for ensilage or stover for dairy animals or animals that will be finished for slaughter. One application of 1/2 lb. of endrin may be used to within 45 days of harvest. Toxaphene granules, 1 1/2 lb. per acre, one application only, can be used, but not on corn for ensilage or stover for dairy cattle or animals being finished for slaughter.

Grasshoppers are still with us,but the situation is spotted; some fields are heavily infested and others have comparatively low populations. In many areas the 'hoppers have already migrated to bean and corn fields. These migrations occur when the legumes or grasses are cut for hay or dry out. In some areas foliage may be so luxuriant in fence rows and ditch banks that the grasshoppers may remain in them.

Our recommendations for control are: For areas that will not be grazed or used as hay for livestock, use 1/8 lb. of dieldrin, 1 1/2 lb. of toxaphene, 1/4 lb. of aldrin or 1/4 lb. of heptachlor per acre. This includes such areas as roadsides, diverted acres, etc.

On pastures for dairy animals and beef cattle, use 3/4 lb. of dibrom or 1 to 1 1/2 lb. of Sevin per acre. No interval is required between application and grazing.

For pastures to be grazed only by beef cattle, use 1 1/2 lb. of toxaphene. If toxaphene is also being applied to the cattle to control flies, allow 42 days between last grazing on treated pasture and slaughter. Do not graze dairy animals on toxaphene-treated forage or pasture.

For hay crops, apply 3/4 lb. of dibrom, 1 lb. of malathion or 1 to 1 1/2 lb. of Sevin per acre. No interval between application and harvest in required for Sevin. Allow 4 days when using dibrom and 7 days for malathion. Diazinon, 1/2 lb. per acre, can be used on alfalfa, with 7 days between application and harvest. A single treatment of 1 oz. of dieldrin per acre may be applied to hay crops, but not after the new growth is over six to eight inches high or within 35 days of harvest.

For corn or soybeans, apply 1/8 lb. of dieldrin or 1 1/2 lb. of toxaphene per acre. Do not apply toxaphene to corn or soybeans to be used for hay, ensilage or stover for dairy cattle or animals being finished for slaughter. Dieldrin, 1/8 lb. per acre, may be applied to corn to within 40 days of harvest or ensiling and to soybeans to within 60 days of harvest or feeding. One ounce of dieldrin per acre may be applied to soybeans to within 35 days of harvest or feeding.

Dieldrin, toxaphene and Sevin kill grasshoppers slowly. Do not evaluate control for 2 to 4 days after treatment. Dieldrin and toxaphene provide control for several days after application; Sevin, for a few days. Diazinon, dibrom and malathion kill a high percentage of 'hoppers within 24 to 36 hours, and control increases only slightly thereafter.

The fall armyworm, not the true armyworm, is present in small numbers in immature corn. These worms feed in the whorl and as the leaves emerge the plant develops a ragged appearance. If control becomes necessary, 1 1/2 lb. of DDT or toxaphene per acre can be used if the corn is not to be used as ensilage or stover for dairy cattle or animals being finished for slaughter.

True armyworms are still evident in some fields of grasses, grains and grassy corn in northern Illinois, as reported last week. See last week's report for control measures.

Face fly populations are still increasing. DDVP sirup baits used correctly are providing good control. Back rubbers saturated with 5% toxaphene, for beef cattle only, have been giving erratic results. Their success depends on how much the cattle use them.

Caution: Before applying insecticides, read the labels carefully, and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with USDA Agricultural Research Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:dl
7/27/62

Ent

FOR IMMEDIATE RELEASE August 3, 1962

INSECT SURVEY BULLETIN NO. 16

These weekly bulletins, prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies, report general trends in insect populations in Illinois (fruit insects excepted). Check your own fields to determine local conditions.

Pupation of first generation corn borer is nearly complete in the early fields in central and north-central Illinois, but more pupation is yet to take place in early fields in northern Illinois. Although these early fields supply the highest percentage of the second generation moth population in a community, slightly less mature fields do have some corn borer which are just now starting to pupate. Thus, moth flight and egg laying may extend over a long period of time.

In early fields, pupation is extremely high and as many as 50% of the moths have emerged and are now laying eggs. Since corn borer moths do not migrate readily on cool nights, they are laying their eggs in fields from which they emerged. With several warm nights they will migrate to the less mature fields of corn.

The highest population of first generation borers is in an area west of Highway 51 and north of a line drawn through Bloomington and Pekin. Although the population is not as high north of this line and east of 51, there are enough first generation borers present in this area to supply plenty of moths for a second generation.

Corn borer populations are still expected to be greater this year than last.

All canning companies should already be observing sweet corn fields that are 10 or more days from harvest, and be prepared to treat at first egg hatch.

Late field corn may warrant treatment if there are 100 or more egg masses per 100 plants. Use 1 1/2 lb. of DDT per acre on corn for grain, but do not apply to corn for ensilage or stover for dairy animals or animals that will be finished for slaughter. Only one application of 1/4 lb. (an error last week stated 1/2 lb.) of endrin may be used to within 45 days of harvest. Toxaphene granules, 1 1/2 lb. per acre, one application only, can be used, but not on corn for ensilage or stover for dairy cattle or animals being finished for slaughter.

Grasshoppers are still extremely plentiful in many areas. As hay harvest progresses and the grasshoppers migrate to beans and corn, their numbers will become quite noticeable in western and northwestern Illinois where populations are higher and more general than in eastern and northeastern Illinois. But even here, there are areas of heavy to moderate infestations.

Some farmers, when mowing hay, are leaving a strip unmowed around the outside and down the center of the field. As the grasshoppers concentrate in these unmowed strips, they are sprayed.

Our recommendations for control are: For areas that will not be grazed or used as hay for livestock, use 1/8 lb. of dieldrin, 1 1/2 lb. of toxaphene, 1/4 lb. of aldrin or 1/4 lb. of heptachlor per acre. This includes such areas as roadsides, diverted acres, etc.

On pastures for dairy animals and beef cattle, use 3/4 lb. of dibrom or 1 to 1 1/2 lb. of Sevin per acre. No interval is required between application and grazing.

For pastures to be grazed only by beef cattle, use 1 1/2 lb. of toxaphene. If toxaphene is also being applied to the cattle to control flies, allow 42 days between last grazing on treated pasture and slaughter. Do not graze dairy animals on toxaphene-treated forage or pasture.

For hay crops, apply 3/4 lb. of dibrom, 1 lb. of malathion or 1 to 1 1/2 lb. of Sevin per acre. No interval between application and harvest is required for Sevin. Allow 4 days when using dibrom and 7 days for malathion. Diazinon, 1/2 lb. per acre, can be used on alfalfa, with 7 days between application and harvest. A single treatment of 1 oz. of dieldrin per acre may be applied to hay crops, but not after the new growth is over six to eight inches high or within 35 days of harvest.

For corn or soybeans, apply 1/8 lb. of dieldrin or 1 1/2 lb. of toxaphene per acre. Do not apply toxaphene to corn or soybeans to be used for hay, ensilage or stover for dairy cattle or animals being finished for slaughter. Dieldrin, 1/8 lb. per acre, may be applied to corn to within 40 days of harvest or ensiling, and to soybeans to within 60 days of harvest. Dieldrin, 1/4 lb., may be applied to corn or soybeans to within 60 days of harvest.

Several questions have been asked about the use of aldrin on soybeans. It may be used for grasshopper control as a single application of 1/4 lb. per acre to within 30 days of bean harvest, or up to 1/2 lb. to within 60 days of harvest.

Corn leaf aphid has been reported as abundant in corn and sorghum fields in some areas of southern Illinois. It is difficult to determine need for treatment even though we do know that heavy infestations are a contributing factor to barrenness and decrease in ear size in corn, and reduced yields in sorghum. Early control has proven beneficial, but the benefit from applications made after sorghum heads or ears of corn are formed may be questionable.

If a field, by its appearance, needs treatment, 1 lb. of malathion or 1/4 lb. of parathion may be used on corn.

Malathion, parathion or 1/4 lb. of phosdrin may be used on sorghum. Allow 7 days to elapse between application of malathion and harvest, 12 days with parathion and 3 days with phosdrin.

Parathion or phosdrin should be applied only by experienced applicators properly equipped for their own protection.

Caution: Before applying insecticides, read the labels carefully, and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with USDA Agricultural Research Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:dl
8/3/62

In 7

FOR IMMEDIATE RELEASE August 10, 1962

INSECT SURVEY BULLETIN NO. 17

These weekly bulletins, prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies, report general trends in insect populations in Illinois (fruit insects excepted). Check your own fields to determine local conditions.

Corn borer pupation in early fields in central and north central Illinois has now reached 90%, with 75% emergence of moths. These moths are migrating to late developing fields where they are laying eggs for the second generation of borers. Egg counts in late developing fields ranged from 1 per stalk in the eastern part of the state to about 2 per stalk in the western part of the state. Depending on weather, egg laying should reach its peak during the next two weeks but will be spread out over the next four weeks.

In northern Illinois 60% of the first generation borers have pupated and approximately 50% emergence has occurred. The moths just began to lay eggs this past week in northern Illinois; they will concentrate on late developing fields this week. Egg laying should reach its peak in the next two to three weeks but will extend over a five-week period.

All canning companies should be alert to possible infestations in sweet corn fields that are 10 or more days from harvest and should be prepared to treat them at first egg hatch.

Late field corn may warrant treatment if there are 100 or more egg masses per 100 plants. Use 1 1/2 lb. of DDT per acre on corn for grain, but do not apply to corn for ensilage or stover for dairy animals or animals that will be finished for slaughter. One application only of 1/4 lb. of endrin may be used to within 45 days of harvest. Toxaphene granules, 1 1/2 lb. per acre, one application only, can be used, but not on corn for ensilage or stover for dairy cattle or animals being finished for slaughter.

Grasshopper control measures have been very effective as farmers have been controlling 'hoppers since early summer. This early action has prevented extensive grasshopper damage.

There are, however, many fields where grasshoppers are still extremely abundant. This week many 'hoppers began to migrate from fence rows, diverted acres, hay fields and ditch banks to beans and corn where leaf feeding is now beginning to show. Estimating damage to beans is difficult in some instances, since 'hoppers feed mainly on the leaves but may also feed on pods and blossoms.

Our recommendations are: For hay crops, apply 3/4 lb. of dibrom, 1 lb. of malathion or 1 to 1 1/2 lb. of Sevin per acre. No interval between application and harvest is required for Sevin. Allow 4 days when using dibrom and 7 days for malathion. Diazinon, 1/2 lb. per acre, can be used on alfalfa, with 7 days between application and harvest. A single treatment of 1 oz. of dieldrin per acre may be applied to hay crops, but not after the new growth is over six to eight inches high or within 35 days of harvest.

For corn or soybeans, apply 1/8 lb. of dieldrin or 1 1/2 lb. of toxaphene per acre. Do not apply toxaphene to corn or soybeans to be used for hay, ensilage or stover for dairy cattle or animals being finished for slaughter. Dieldrin,

1/8 lb. per acre, may be applied to corn to within 40 days of harvest or ensiling, and to soybeans to within 60 days of harvest. Dieldrin, 1/4 lb., may be applied to corn or soybeans to within 60 days of harvest. Dibrom, malathion and Sevin can also be used on corn for ensilage.

Bean leaf beetles have been appearing in soybean fields and feeding extensively on the leaves in some areas of the state. Dieldrin or toxaphene as used for grasshoppers will control them as well as the grasshoppers.

Face flies became much more noticeable this week, particularly in the north 1/2 to 2/3 of the state. Infestations may become more severe during the month. DDVP sirup baits should be applied regularly to dairy animals by painting a strip of bait on the animal's forehead with a paint brush. Severely attacked beef animals should be brought into the lot or barn for protection.

DDVP sirup bait can be further diluted with water so that it will pass through a small hand sprayer. Hold the hand sprayer about 1 foot from the cow's head, and apply 1/5 of an ounce (1 to 2 strokes) to each animal after the morning milking. Losse-housed cattle or beef cattle are more difficult to treat, but good control can be obtained by spraying twice the amount on the sides and backs of these animals.

For beef cattle, use backrubbers charged with 5.0% toxaphene, preferably in a mineral oil base, although a No. 2 fuel oil can also be used. Place the backrubber where it will get the most use. Allow 30 days between treatment and slaughter of beef animals treated with toxaphene. Do not use toxaphene on dairy cattle.

Crickets, as predicted earlier, are now migrating and are attracted to lights; in addition, large green leafhoppers which feed and develop on grass crops are also attracted in swarms to lights.

To aid in reduction of the crickets and leafhoppers that enter the house, apply 2% chlordane or 1/2% dieldrin around the foundation of the house and around doorways. Follow label precautions in handling insecticide concentrates.

Caution: Before applying insecticides, read the labels carefully, and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with USDA Agricultural Research Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

FOR IMMEDIATE RELEASE August 17, 1962

INSECT SURVEY BULLETIN NO. 18

These weekly bulletins, prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies, report general trends in insect populations in Illinois (fruit insects excepted). Check your own fields to determine local conditions. This is the last issue for the 1962 season.

Grasshoppers continue to migrate from hay fields, diverted acres, ditch banks, roadsides and fencerows into soybeans and corn. They are also invading home vegetable gardens. As hay fields are cut and other grass areas dry, they will continue to move to more succulent food. This migration and damage will occur until the first frost.

For corn or soybeans, apply 1/8 lb. of dieldrin or 1 1/2 lb. of toxaphene per acre. Do not apply toxaphene to corn or soybeans to be used for hay, ensilage or stover for dairy cattle or animals being finished for slaughter. Dieldrin, 1/8 lb. per acre, may be applied to corn to within 40 days of harvest or ensiling, and to soybeans to within 60 days of harvest. Dieldrin, 1/4 lb., may be applied to corn or soybeans to within 60 days of harvest. Dibrom, malathion and Sevin can also be used on corn for ensilage.

For home vegetable gardens, flowers and shrubs, use either malathion or Sevin. To mix, use 2 teaspoons of 50 to 57% malathion emulsion concentrate per gallon of water or 1 1/2 tablespoons of Sevin 85W or 2 tablespoons of Sevin 50W per gallon of water. Do not treat within 7 days of harvest when using malathion or 3 days for Sevin. Leaf lettuce should not be sprayed with malathion within 14 days of harvest.

Corn borer pupation is complete throughout the state, and emergence of moths is nearly complete in northern Illinois. In central and north-central Illinois, 90 percent of the first-generation borers pupated in contrast with only about 75 percent in northern Illinois.

Populations are heaviest in the area west of Highway 51, north of Route 9 and south of Route 6. Egg mass counts in late-maturing fields were averaging one to three egg masses per plant this week. Late fields in the central and north-central area east of Highway 51 are averaging about one egg mass per plant. Approximately 50 percent of the eggs have now hatched in these areas. In northern Illinois, egg mass counts are low on late-maturing fields, with the average less than one per plant, and the infestation generally appears light. Egg hatch is just beginning in this area.

Cool weather this past week has slowed egg-laying in all areas. However, it will increase rapidly with the first warm nights, particularly in the northern area, and will continue for the next two to three weeks.

All canning companies should be alert to possible infestations in sweet corn fields that are 10 or more days from harvest and should be prepared to treat at first egg hatch.

Late field corn will warrant treatment if there are 100 or more egg masses per 100 plants. Use 1 1/2 lb. of DDT per acre on corn for grain, but do not apply to corn for ensilage or stover for dairy animals or animals that will be finished

for slaughter. Only one application of 1/4 lb. of endrin may be used to within 45 days of harvest. Toxaphene granules, 1 1/2 lb. per acre, one application only, can be used, but not on corn for ensilage or stover for dairy cattle or animals being finished for slaughter.

Corn leaf aphids were numerous in all late-maturing corn fields this week. However, in most fields only occasional plants were heavily infested. After the tassels have emerged, the benefits from control are questionable.

Malathion, 1 pound per acre, or parathion, 1/4 pound per acre, is effective. Allow 7 days to elapse between treatment and harvest with malathion and 12 days with parathion.

Parathion should be applied by experienced operators, properly equipped for their own protection.

Fly populations have increased greatly in the last few weeks and are expected to be a problem well into September.

House fly numbers are heavy on farms having livestock or needing general clean-up of breeding areas. Calf pens, hog pens, loafing pens, and other areas should be cleaned at least weekly and the manure spread out to dry. The walls and ceilings of livestock barns should be sprayed with diazinon, dimethoate, or ronnel. Baytex, another insecticide, may be used in beef barns, but not in dairy barns. As a supplement to good sanitation and residual sprays, use spray baits of these same materials. A good bait can be prepared by mixing 2 parts corn sirup with 1 part water and adding sufficient amounts of the chemical to this mixture. Apply the bait from a small tank sprayer to favorite fly roosting areas.

A new material, dimetilon, which is available in 2-inch-wide red strips ready to tie or tack up, can be substituted for the spray baits.

Face flies became much more noticeable this week, particularly in the northern 1/2 to 2/3 of the state. Infestations may become more severe during the month. DDVP sirup baits should be applied regularly to dairy animals by painting a strip of bait on the animal's forehead with a paint brush. Severely attacked beef animals should be brought into a shed or barn for protection.

DDVP sirup bait can be further diluted with water so that it will pass through a small hand sprayer. Hold the hand sprayer about one foot from the cow's head, and apply 1/5 ounce (1 to 2 strokes) to each animal after the morning milking. Loose-housed cattle or beef cattle are more difficult to treat, but good control can be obtained by spraying twice the amount on the sides and backs of these animals.

For beef cattle, use backrubbers charged with 5.0% toxaphene, preferably in a mineral oil base, although a No. 2 fuel oil can also be used. Place the backrubber where it will get the most use. Allow 30 days between treatment and slaughter of beef animals treated with toxaphene. Do not use toxaphene on dairy cattle.

Stable flies, which suck blood from cattle, breed in wet, decaying straw, hay or similar material. Although they have been quite numerous for several weeks, they have now become very abundant. Use repellents like Tabatrex or R-329 in

combination with synergized pyrethrin, or a 1.0% DDVP oil solution spray to protect dairy cattle during grazing. Pay particular attention to the legs and undersides when spraying.

Flies can be controlled around the house by applying baits outside near doors and around kitchen windows. For cook-outs, use a small hand sprayer or pressurized spray containing pyrethrin or DDVP for quick knockdown of flies and mosquitoes.

Sod webworms are reported to be damaging lawns in some areas. Brown areas develop in infested lawns, and brownish worms can be found in tunnels of dried grass in the nap of the lawn in these areas. Webworms can be controlled by spraying the grass with 5 lb. DDT or 2.5 lb. chlordane per acre. Do not water the lawn for 72 hours after treatment. Proper fertilization and watering will help speed its recovery.

Caution: Before applying insecticides, read the labels carefully, and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by Steve Moore III, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with USDA Agricultural Research Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

SM:wb
8/17/62

In 7

FOR IMMEDIATE RELEASE April 19, 1963

INSECT SURVEY BULLETIN NO. 1

This is the first in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

European corn borer winter survival was normal in central and western Illinois and below normal in northern Illinois. On the basis of this survival and the overwintering borer population, corn producers in the triangular area from Rock Island to Peoria to Carthage should, wherever possible, avoid early planting, particularly on highly fertile soils.

Clover leaf weevil populations are not now generally considered serious. However, if weather conditions become unfavorable for rapid growth, weevils are numerous enough to damage occasional fields of clover, particularly in west-southwestern and western Illinois. Prolonged cool or dry periods that retard growth would not permit the plants to recover from the weevil feeding.

Where feeding is severe and plants appear stunted, an application of 1 1/2 pounds of methoxychlor or 1/4 pound of lindane per acre will control cloverleaf weevils. Allow 30 days to elapse between treatment and harvest or pasture when using lindane and 7 days when using methoxychlor.

Pea aphid populations are not serious at present. Furthermore, insects that feed on aphids, such as lady beetles, aphid lions and wasp parasites, have been increasing in numbers earlier this year than normal. They may help hold the population of aphids at a low level.

During warm, sunny days face flies can be found in small numbers on cattle pasturing near houses, barns, and wooded areas. Cattle near wooded areas have more flies than cattle on prairie land. These flies are laying eggs that will produce the first generation of flies sometime in late May. Dairymen should begin their baiting program by using 0.2% DDVP in corn sirup each morning for two weeks as soon as flies are noticed. Killing face flies now may prevent thousands from developing later.

Spring cankerworms have started to feed on elms and a few other deciduous trees, particularly in western Illinois. They are feeding on new leaf shoots. A spray of 4 pounds of lead arsenate per 100 gallons of water will control these pests.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty and Steve Moore, Illinois Natural History Survey and Illinois College of Agriculture in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:je

In 7

FOR IMMEDIATE RELEASE April 26, 1963

INSECT SURVEY BULLETIN NO. 2

This is the second in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Spittlebug hatch is well advanced in northern Illinois. These newly hatched nymphs are still very small, and the froth in which they are enclosed is about the size of a raindrop. The spittlebug population is lower than it has been for several years and no important damage is expected, but an occasional field may profit from control measures if the extra hay is needed. To determine need for treatment, carefully examine 10 stems of clover or alfalfa in each of five places in a field. Unless you find an average of one or more spittlebug nymphs per stem, treatment will not be profitable.

If control measures are needed, apply one pound of methoxychlor or 1/4 pound of lindane per acre. Allow one week to elapse between treatment with methoxychlor and harvest as hay or use as pasture, and 30 days when using lindane.

For profitable control, insecticides should be applied no later than May 10 if growing conditions remain about normal for this time of year.

Clover leaf weevil feeding is becoming more apparent in some fields, but with reasonably warm weather and moisture the clover will rapidly grow away from this feeding damage. Also, warm weather will promote a fungus disease of this insect that normally kills a high percentage of the weevils. However, if use of insecticides becomes necessary to protect the clover, those recommended for spittlebug will control this pest also.

Sawfly larvae are now being found in wheat fields. Do not confuse these green to yellow, velvety-appearing, almost transparent larvae with the true armyworm, which is a striped worm. Furthermore, sawfly larvae have prolegs or false legs on six or more abdominal segments; true armyworms have prolegs on only four abdominal segments. Although sawfly larvae feed on the wheat leaves, damage will have little if any effect on wheat production.

Elm leaf beetles are about 1/4 inch long with yellowish legs and antennae. The body is dirty yellow. These beetles have spent the winter in protected areas alongside and in buildings. They are leaving hibernating quarters, and many will migrate into homes. They do no damage but are very annoying.

Clover mites look like tiny red to brown specks, but they move around. They hibernate behind weatherboards and in the void spaces of house walls. With warm weather, they are now leaving these hibernating quarters. Some enter the house, and others migrate to the outside. They do no damage in the house, but they are annoying to many people.

To prevent recurrence this fall and next spring, remove all weeds and grass next to the foundation, leaving a strip of bare soil about 18 to 24 inches wide. This strip can be planted to flowers.

If control is desired now, spray the soil, the grass bordering the barren strip, and the side of the house up to the bottom of the windows with aramite or kelthane according to the instructions on the container.

Ants are also now entering houses in search of food. To prevent this entry, spray the outside foundation with 1/2 percent dieldrin or 2 percent chlordane. Get emulsifiable concentrates and dilute to proper strength with water. Spray to run-off from the soil line about six inches up the foundation. Do not spray along dug wells or cisterns. Do not spray shrubbery or flowers with this mixture, as the oil may burn tender foliage.

Caution: Before applying insecticides, read the labels carefully and follow all precautions listed for handling as well as application. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty and Steve Moore, Illinois Natural History Survey and Illinois College of Agriculture, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:sg
4/25/63

FOR IMMEDIATE RELEASE

May 10, 1963

INSECT SURVEY BULLETIN NO. 4

This is the fourth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey, and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borer pupae were observed in central Illinois this week. Pupation started last week in the south central section and two weeks ago in southern Illinois. However, this pest is not expected to present a problem in southern or south-central Illinois.

The area from Rock Island to Peoria to Quincy had a higher wintering population than anywhere else in Illinois. Here, pupation will probably start this week, but continued dry weather could delay pupation resulting in late moth emergence. If this occurs, corn will be in a stage of growth favoring survival of borers hatching from eggs laid in late June. This situation may warrant careful observation from June 15th through early July.

Yellow spots in oat fields appeared this week, particularly in western Illinois. Leafhoppers were associated with these spots, but they were not the cause of the damage. Plant pathologists have identified the cause of the damage as a combination of two diseases, halo blight and striped blight. Two leaf spots, Helminthosporium and Septoria, were also observed.

Nothing can be done at this time to control these diseases. Favorable oat-growing weather will enable the plants to recover from damage.

Chinch bugs are still migrating and are now being found in oats as well as wheat and rye fields in the eastern section of Illinois. No eggs have been observed and probably none will be laid for another 10 days or two weeks.

Armyworms are quite small and so far are only to be found in lodged spots in wheat, barley, and rye fields.

Elm leaf beetles either now are, or soon will be, skeletonizing leaves of elms, particularly Chinese elms. The larvae are dirty yellow to black, ugly, and spiny. To control, spray the tree with 4 lbs. of lead arsenate per 100 gallons of water.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This will not only insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty and Steve Moore, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:gl
5/10/63

In7

FOR IMMEDIATE RELEASE May 17, 1963

INSECT SURVEY BULLETIN NO. 5

This is the fifth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borer pupation increased rapidly this past week in spite of the cool weather. Approximately 40 to 80 percent of the borers have pupated in the south central section; 20 to 60 percent in the central and north-central sections; and 0 to 20 percent in the northern section, where pupation is just beginning. Both corn and corn borer are ahead of normal. If this situation continues, it will favor survival of first-generation corn borer. The more mature the corn is at the time of first-generation borer hatch, the better the chance for borer survival.

The most seriously threatened area lies north and west of a line from Rock Island to Peoria to Quincy.

Pea aphid populations are heavy on alfalfa and clovers in the southern half of Illinois. Damage is not yet apparent except in dry areas, but the situation should be watched closely.

Insects that feed on aphids, such as lady beetles, aphid lions, syrphid flies and wasps are increasing and may hold aphid populations in check. A few diseased aphids were also observed, which may help to lower aphid numbers. However, if plants begin to wilt and injury becomes apparent and the crop is still more than seven days from cutting, apply 1 pound of malathion per acre.

Armyworms are numerous in lodged and thick areas of wheat, barley and rye. One report of armyworms damaging a bluegrass pasture has been received. Observe downed areas in small grains, and thick stands of small grains and grasses, for the presence of this insect. Do not confuse the unimportant sawfly larva with that of the true armyworm. Sawflies have a transparent skin and six or more pairs of prolegs while armyworms have a nontransparent skin and fewer than six pairs of prolegs. If there are six or more armyworms per linear foot of drill row in grain and they are 1/2 inch or more in length, treatment is advisable. Apply 1/4 pound of dieldrin or 1 1/2 pounds of toxaphene per acre. When using dieldrin, do not harvest the grain for seven days or the straw for 30 days. Toxaphene-treated barley should not be harvested for grain within 14 days of treatment, but the grain of wheat or oats may be harvested within seven days. Do not feed toxaphene-treated straw to dairy cattle or fattening beef cattle.

Alfalfa leafhopper adults migrated into Illinois on wind currents from states to the south this past week. The heaviest fallout was in an area north of a line from Pittsfield to Tuscola and south of a line from Mt. Carroll to Joliet. This zone is about 50 miles north of the area normally involved in past years and includes more of the intensive alfalfa-growing area.

These small green wedge-shaped leafhoppers will now lay eggs that will produce the young nymphs which, when numerous, cause yellowing of second- and third-cutting alfalfa. It is too soon yet to predict the problems that may be encountered with this pest.

The periodical cicada is due to emerge over a large area of Illinois this year. There are two broods, which are one reason for the extensive area that is involved. The 13-year brood will emerge in the area south of U. S. Route 36, while the 17-year brood will confine itself to western Illinois.

Emergence is just beginning in extreme southern Illinois and will continue northward in succeeding weeks. The almost continuous high-pitched shrill sound made by the males announces their presence. The females seek out trees and lay eggs in slits in small branches, which will turn brown and die. Damage is sometimes severe in newly planted orchards or new plantings of shade trees.

A relatively new but safe insecticide, Sevin, is an effective control. It should be applied when cicadas become numerous and the application repeated in 7-10 days if needed. Use 2 pounds of the 50% wettable powder or 1 pound 3 ounces of 85% sprayable powder per 100 gallons of water. For smaller amounts, use 2 teaspoons per gallon of water. Do not apply Sevin to producing apple trees within 30 days after full bloom, since it may cause fruit thinning. Sevin may be used to within one day of harvest on fruit trees. Do not apply it to Boston ivy.

Fall cankerworms were observed damaging oak and elm trees this week. Some trees were nearly completely defoliated. This worm is a close relative of the spring cankerworm, and the habits, damage, and control of the two are similar. Cankerworms attack a wide variety of shade trees as well as fruit trees. A spray of 4 pounds of lead arsenate per 100 gallons of water will control these pests.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This will not only insure personal safety, but will also eliminate insecticide residue hazards.

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HBP:dl
5/17/63

FOR IMMEDIATE RELEASE May 24, 1963

INSECT SURVEY BULLETIN NO. 6

This is the sixth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borer pupation is complete in southern Illinois, and about half the moths have emerged. In the south-central, central and north-central areas, 60 to 90 percent of the overwintering larvae have pupated, but only an occasional moth has emerged. In northern Illinois about 60 percent of the wintering larvae have pupated.

The triangular area from Rock Island to Peoria to Carthage had the highest overwintering borer population in Illinois. Observe the most advanced fields in this area about June 15, as moths will concentrate their egg-laying in these fields. Since corn was planted in a short time this year, it is possible that much of it may attract moths for egg-laying; if so, egg masses could be scattered over most of the fields and not concentrated in a few.

Black cutworms have damaged some corn in western and southwestern Illinois. Cutworms are usually most damaging in low spots in a field and may migrate from these spots, cutting corn as they go. Before applying an insecticide, make a count to determine whether they are cutting below the heart of the plant or just cutting off the upper part. If the plants have been cut above the heart, they will continue to grow. If the cutworms are small and numerous, they will continue to damage the field.

To control, apply 1/2 pound of dieldrin, 3 pounds of toxaphene or 1/4 pound of endrin per acre. Use as much water per acre as possible. Use low pressures, and direct the spray at the base of the plants. Cultivate immediately, putting dirt around the plants.

Lesser clover leaf weevils are apparent in many red clover fields. The larvae hollow out the stems behind the leaf sheaths, and the stem often wilts and dies. No control measures are known for this pest.

Cicadas are present in the southern part of Illinois and soon will be noticeable in south-central Illinois. The high-pitched shrill sound made by the male cicadas is an indication of their presence. The females will soon begin to lay eggs in the small branches of trees, and damage may be severe in newly planted fruit and shade trees.

If only a few newly planted trees are involved, cover them with cheesecloth, fastened tightly so that cicadas cannot get into this "tent." If chemical control is needed, use Sevin according to label directions. Do not apply it to producing apple trees within 30 days after full bloom or to Boston ivy.

Bagworms should already have hatched in southern Illinois. As soon as you notice the small bags, apply control measures. For small amounts of spray, use 1 tablespoon of lead arsenate, malathion wettable powder, Sevin wettable powder or 60% toxaphene emulsifiable concentrate, or 2 teaspoons of malathion emulsifiable concentrate per gallon of water. Do not use malathion on Cannert red juniper.

Elm leaf beetles have been feeding on Chinese elms in some areas. Sevin or lead arsenate sprays will control these pests.

Horn fly and stable fly numbers vary from herd to herd, but they are beginning to build up. Beef cattle can be sprayed with 0.5% toxaphene sprays; dairy cattle, with sprays containing 1.0% DDVP or 0.1% pyrethrins and synergists.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This will not only insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty and Steve Moore, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:dl
5/24/63

FOR IMMEDIATE RELEASE May 31, 1963

INSECT SURVEY BULLETIN NO. 7

This is the seventh in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

General: With the cool, wet weather of the past several days, the insect situation has remained quite similar to that reported a week ago. During the past month there has been a small generation of black cutworms in some areas. The number has been low, but the moths from this generation will lay eggs in low, wet areas in corn fields. Watch spots of this type for possible damage in about two weeks. Southern corn rootworm adults are quite abundant. Whether or not they will cause more damage than usual this year remains to be seen.

Grasshoppers are now hatching in many areas of Illinois. Hatch has just started and will continue for some time. There is enough food to keep these small grasshopper, in the eggbed area. Do not apply control measures now, as it is too early.

Corn borer moth emergence has begun in central Illinois, but no moth emergence has occurred yet in northern Illinois. In general, pupation and emergence of moths are 3 to 7 days earlier than usual, but corn growth is also slightly more advanced than in previous years. The next 2 to 4 weeks will be critical for survival of first-generation corn borer, and the survival will determine the importance of corn borer to the 1963 crop.

Cereal leaf beetle, newly introduced pest of grains and corn, is present in Indiana and Michigan but has not been found in Illinois.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This will not only insure personal safety, but will also eliminate insecticide residue hazards.

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HBP:dl
5/31/63

In7

FOR IMMEDIATE RELEASE June 7, 1963

INSECT SURVEY BULLETIN NO. 8

This is the eighth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Wireworms have been more abundant in corn fields this year than for the past several years. Damage has been common in fields where no soil treatments were applied; there has even been some damage where soil insecticides were applied. In most cases where control measures failed the corn was planted deeper than usual, and the insecticide was placed above the seed. Thus the wireworms do not get into treated soil to feed. Also in dry soil the wireworms are farther underground than when moisture is normal. In some cases the granules have not dissolved, but have remained unchanged in dry soil. Also the soil has been cool, reducing volatilization of the insecticide and thus reducing insecticidal activity. Cool weather, dry soil and deep planting have contributed to control failures.

If replanting is necessary, broadcast 1 1/2 to 2 pounds of aldrin or heptachlor per acre and disk it into the soil immediately, or apply 1 pound per acre in the row as a band treatment.

Corn borer pupation is now complete throughout Illinois, and almost 100 percent of the moths have emerged as far north as Highway 6. Moths are now laying eggs. If we have warm nights and no storms, all eggs will be deposited within the next 10 days to two weeks. Since most of the moths have emerged in the area with the highest borer populations, wind and rain storms couls kill the moths before they lay many more eggs, thus reducing borer potential greatly. This may already have occurred to some extent.

Cool nights and calm weather would permit the moths to live, but would delay egg-laying. Such conditions could lead to a severe corn borer infestation in northern and western Illinois, particularly in the triangular area bounded by the Mississippi River and a line from Rock Island to Peoria to Carthage. Here some fields of corn are quite advanced. Observe these fields carefully for the next two weeks.

Insecticides should not be applied until the tassel ratio is over 35; this will be in about two weeks. To determine the tassel ratio, measure the height of the plant with leaves extended; split the plant open and measure from the tip of the developing tassel to the base of the plant. Divide the tassel height by the plant height and multiply by 100. This figure is the tassel ratio. If this tassel ratio is 30 or over and 75 percent of the plants show borer leaf feeding on the whorl leaves, treatment is indicated. Do not treat, however, until the tassel ratio is at least 35 and preferably 40 to 45. Use 1 pound of DDT, or 1 1/2 to 2 pounds of sevin, as granules, per acre. If spraying, use 1 1/2 pounds of actual DDT per acre, but direct the spray onto the upper third of the plant. Aerial applications should be granules, not sprays or dusts. Follow label precautions in harvesting and feeding treated corn.

Grasshoppers are now hatching in many areas of the state and are common in fence rows and roadsides. Populations are not high, and as yet control measures are not needed. Also, hard rains may have killed many of the newly hatched nymphs.

Chinch bugs so far have not been abundant enough to cause alarm. However, in eastern Illinois, observe small grains closely, particularly bad spots or thin stands. Chinch bugs are most likely to be abundant in areas that have not had rain for some time.

If chinch bugs start to migrate from small grain to corn, apply 1/2 pound of dieldrin as a border about 1 to 2 rods into the grain field and into the corn fields as far as the bugs are severe. Do not harvest small grain for one week after treatment or use the straw until 30 days after treatment.

Armyworms have been reported from several areas. They have been most common in luxuriant growths of wheat. If there are six or more per linear foot of drill row, apply 1/4 pounds of dieldrin or 1 1/2 pounds of toxaphene per acre. Do not harvest the grain for at least one week after treatment. Do not use the straw until 30 days after application.

Bagworms are hatching in central Illinois. If they are abundant enough to require control, apply as soon as you notice the small bags. For small amounts of spray, use 1 tablespoon of lead arsenate, malathion wettable powder, sevin wettable powder, or 60% toxaphene emulsifiable concentrate or 2 teaspoons of malathion emulsifiable concentrate per gallon of water. Do not use malathion on Cannert red juniper.

Stored-grain insects. With wheat harvest just around the corner, stored-grain insects hidden in empty bins are preparing for the big feast. Prevent damage from these pests by sweeping up and cleaning out all old grain and other debris inside and around the bin. Then spray all inside surfaces to runoff with a 1.5% premium-grade malathion or 2.5% methoxychlor. Also treat the wheat, as it is being binned, with a liquid or dust form of premium-grade malathion. These three steps will insure insect-free wheat for a year or more.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This will not only insure personal safety, but will also eliminate insecticide residue hazards.

For a list of general precautions to use when handling and applying pesticides, write to 280 Natural Resources Building, University of Illinois, Urbana, Illinois, for "Safe Use of Pesticides."

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This weekly report was prepared by H. B. Petty and Steve Moore, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:dl
6/7/63

In 7

FOR IMMEDIATE RELEASE June 14, 1963

INSECT SURVEY BULLETIN NO. 9

This is the ninth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borer emergence is complete or nearly so everywhere except in extreme northern Illinois. Egg-laying is progressing rapidly in most areas.

In west-southwestern Illinois many fields of field corn are satisfactory for egg-laying. With the large acreage of tall corn, eggs will be scattered over many fields and not concentrated in a few. In general, survival from eggs deposited this week will be high, but egg-laying should be declining rapidly.

In central and eastern Illinois, moths are concentrating in the more mature field corn, but even in these fields egg counts are low and no fields were observed this week that would require control measures. More eggs may be deposited this week, however, and this could change the picture in some fields.

In western Illinois, in the area bounded by a line from Rock Island to Peoria to Quincy, egg counts are high but field corn development is such that most of the borers that have already hatched will not survive. Moths are still depositing eggs and may continue to do so for the next week to ten days. The rate of egg-laying will be decreasing, however. During this time survival of newly hatched borers will be increasing as the corn develops. Observe the most advanced fields of corn in this area for at least the next ten days. Follow tassel ratio and treatment instructions as published in the bulletin last week.

In northern Illinois, egg-laying has begun, but no predictions can be made at this time.

Armyworm infestations have occurred in several areas; no infestations have been extremely severe, but many have required control measures to prevent economic losses to wheat and corn. All sizes of armyworms have been present in the infested fields. If there are six or more worms per linear foot of drill row in grain, apply 1/4 pound of dieldrin or 1 1/2 pounds of toxaphene per acre. Do not harvest the grain for at least one week after treatment. Do not use the straw until 30 days after application.

Chinch bug infestations may occur in dry areas in eastern Illinois, although none have yet been observed. Examine thin areas or dying spots in small grain fields for infestations. If migrations begin from small grain to corn, apply 1/2 pound of dieldrin as a border spray 1 or 2 rods into the grain field and into the cornfields as far as the bugs are severe. Do not harvest small grain for one week after treatment or use the straw until 30 days after treatment.

Some numphs and adults have been observed in cornfields. If grasses were plowed down late this spring, the nymphs on the corn will survive; but if some other crop was plowed down, they will not survive.

Grasshopper infestations are sporadic. This may be correlated with last year's control practices. Infestations are greater where no control was used last year than where control measures were applied.

If control in fence rows and roadsides becomes necessary, use 2 ounces of dieldrin or 1 1/2 pounds of toxaphene per acre. Do not apply near fish-bearing waters. Do not apply to pasture or forage to be used for dairy cattle or livestock fattening for slaughter.

Barn fly control programs should be started this week. Follow these three steps:

1. Practice good sanitation; clean fly-breeding areas as often as is practical.

2. Apply a barn spray material, such as dimethoate, diazinon, or ronnel, to the point of runoff to ceilings and walls of all livestock buildings except poultry houses. Use only ronnel in poultry houses.

3. Supplement the spray application with spray bait applications, using the same insecticide with a corn sirup and water solution (2-1 ratio). Other insecticides and baits may be used as supplementary measures.

Biting flies, such as the stable fly and horn fly, are increasing rapidly. For dairy cattle, apply either a 0.1% pyrethrin or 1.0% DDVP oil-base spray at 1-2 ounces per animal per day. For beef cattle only, apply an 0.5% toxaphene water-diluted spray, 1-2 quarts per animal, every three weeks. Allow 28 days to elapse between treatment and slaughter.

Sod webworm moths have been abundant for the past 10 days to two weeks. They are laying eggs in healthy, luxuriant bluegrass, but not in bluegrass that has been retarded by lack of water and fertilizer.

If control becomes necessary (circular brown spots in otherwise fast-growing grass), apply insecticide at the first appearance of damage. Apply 1/2 pound of DDT, 1/8 pound of dieldrin, or 1 to 2 pounds of Sevin in 40 to 50 gallons of water per 10,000 square feet.

Bagworms have been hatching in central Illinois and will be hatching soon in northern Illinois. If small bagworms are abundant, apply control measures as soon as you notice the small bags. For small amounts of spray, use 1 tablespoon of lead arsenate, malathion wettable powder, sevin wettable powder, or 60% toxaphene emulsifiable concentrate or 2 teaspoons of malathion emulsifiable concentrate per gallon of water. Do not use malathion on Cannert red juniper.

Caution: Before applying insecticides, read labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

For a list of general precautions to use when handling and applying pesticides, write to 280 Natural Resources Building, University of Illinois, Urbana, Illinois, for "Safe Use of Pesticides."

This weekly report was prepared by H. B. Petty and Steve Moore, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:dl
6/14/63

FOR IMMEDIATE RELEASE June 21, 1963

INSECT SURVEY BULLETIN NO. 10

This is the tenth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borer egg-laying declined rapidly this week. Few fresh egg masses were found, and moths were also scarce. In general, only the most advanced corn reached a size (tassel ratio of 20 or above) that would permit hatching borers to survive. Even in these advanced fields the percent of plants showing recent whorl feeding remains for the most part non-economic (below 75%). In many fields the older leaves are showing feeding, but the new whorl leaves are clean, indicating that the borers have already died. There is so much corn now that is attractive for egg-laying that the few eggs yet to be laid will be scattered sparsely over a large number of fields.

Examine the most noticeably advanced fields in a community this week, as an occasional field may profit from treatment, particularly in the area bounded by a line from Rock Island to Peoria to Quincy. To determine the need for treatment, examine 50 to 100 plants for signs of fresh borer feeding on the whorl leaves. If 75 percent or more of the plants show recent whorl feeding, check the tassel ratio. To determine the tassel ratio, measure the height of the plant with leaves extended; split the plant open and measure from the tip of the developing tassel to the base of the plant. Divide the tassel height by the plant height, and multiply by 100. This figure is the tassel ratio. Insecticides should not be applied until the tassel ratio is over 35, and the best time for treatment is between tassel ratios of 40 and 45. Use 1 pound of DDT or 1 1/2 to 2 pounds of Sevin, as granules, per acre. If spraying, use 1 1/2 pounds of DDT per acre, and direct the spray onto the upper third of the plant. Aerial applications should be granules, not sprays or dusts. The rates are in terms of pounds of actual chemical per acre. Follow label precautions in harvesting and feeding treated corn.

Grasshopper hatch is progressing in northern Illinois and will continue in second-growth alfalfa and red clover. Infestations in the state are spotty, and the young hoppers are still confined to hibernating areas along roadsides, ditch banks, fence rows, etc. If grasshoppers are abundant in these non-crop areas, apply 2 ounces of dieldrin or 1 1/2 pounds of toxaphene per acre. Do not apply these materials near fish-bearing waters or to pasture or forage to be used for dairy cattle or livestock fattening for slaughter. For hay crops or pasture, use Sevin, dibrom, diazinon or malathion. Follow label directions.

Armyworms are rapidly reaching the full-grown worm stage, and many have already pupated in the area south of U.S. Route 6. Further feeding in this area is not expected to be serious. Many of the worms have been parasitized by a fly that lays small white eggs on the back of the armyworm, close to the head. The young fly maggot that hatches burrows into the body of the armyworm, eventually killing it. As grains ripen, the few remaining but nearly mature worms will move out in search of more succulent food, like corn. However, these migrations are not expected to be heavy.

In northern Illinois, where armyworms are less mature, those now present will continue to feed for another week to 10 days. If there are six or more worms per linear foot of drill row in grain, apply 1/4 pound of dieldrin or 1 1/2 pounds of toxaphene per acre. Do not harvest the grain for at least one week after treatment. Do not use the straw until 30 days after application.

Negro bugs, small round black or reddish-black bugs, have been reported to be congregating in wheat, corn, garden beans and lawns. When numerous, they suck sap from the plants, stunting the plants and causing the leaves to wilt and die. Usually this insect is not a serious pest, and the small amount of injury that may occur does not justify control measures. However, if the bugs are numerous in grain or lawns and damage is evident, or if moderate to heavy migrations occur from small grains to corn, control measures should be considered. For treating lawns or entire grain fields, apply 1/4 pound of actual dieldrin per acre. To prevent migrations from small grains to corn, apply 1/2 pound of actual dieldrin as a border 1 or 2 rods into the grain field and into corn fields as far as the bugs are severe. Do not harvest small grain for one week after treatment or use the straw until 30 days after treatment.

Clover root curculio have been injuring soybeans that have followed clover plow-down. These small gray to light brown snout beetles eat crescent-shaped notches in the leaves and gouge holes in the stem aboveground as well as below. This pest feeds mainly at night and is difficult to find during the day. To control curculio in soybeans, apply 1 1/2 pounds of actual DDT per acre to the affected area. Apply only if plant loss is apparently going to be severe.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty and Steve Moore, Illinois Natural History Survey and Illinois College of Agriculture, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

SM:wb
6/21/63

Ent

FOR IMMEDIATE RELEASE July 5, 1963

INSECT SURVEY BULLETIN NO. 12

This is the twelfth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Chinch bugs have been migrating from small grains to corn during the past week in central and eastern Illinois. Although not devastating, they have been numerous enough in a few instances to damage marginal rows of corn. In applying dieldrin to control migrating bugs, be sure to treat a strip at least two rods wide into the grain field and as far into the corn field as needed. Do not harvest the grain for one week after application.

Grasshoppers are hatching in legume fields, and an occasional field has concentrations of 'hoppers. The hot, dry weather is ideal for grasshoppers. Examine second-growth hay fields for these tiny 'hoppers and apply control measures now if they are extremely numerous.

For pasture and hay fields, use sevin, malathion, dibrom, or diazinon. Follow label directions for rate of application and interval between treatment and harvest. Applications while the second growth is still short and the 'hoppers are still small will enhance control and avoid kill of pollinating insects after bloom has begun.

Two-spotted mites have been observed on soybeans. This is the same mite that can sometimes be found on evergreens. The feeding appears as a speckling of the leaves. When beans are severely infested, webbing is noticeable. However, the tiny mites are difficult to see unless the leaves are jarred over a white paper or plate. Control measures have, in general, been inadequate. Furthermore, dry weather favors the development of these mites.

Black cutworms are reported to be damaging corn in a few isolated instances.

Wireworms are still being reported from some areas of Illinois.

General observations: As fence rows, ditch banks, and other non-crop lands dry up, many insects may migrate from them to cultivated crops. Thus there may be incidental infestations of insects not otherwise found feeding on cultivated crops. It is impossible to predict these unexpected and abnormal infestations.

Stable flies and horn flies are becoming abundant. Both are bloodsucking flies that rob milk and beef producers of 15 to 20 percent of their profits each summer if allowed to go unchecked.

For dairy cattle, apply 2.0% ciodrin, 1.0% DDVP or 0.1% pyrethrin in a mineral oil base. Spray at the rate of 1 to 2 ounces per animal per day or as often as needed. Be sure to spray the undersides and legs.

For beef cattle, apply a 0.5% toxaphene water-diluted spray at 1 to 2 quarts per animal every three weeks. Allow 30 days to elapse between treatment and slaughter when using toxaphene. Thorough coverage of the animal is important for effective results. Ciodrin 2.0% in oil applied two or three times a week with an automatic sprayer can also be used effectively.

Horse flies were bothering cattle and horses in southern Illinois this week. Most standard livestock sprays do poorly against this pest. The only material that has been effective in Illinois is an 0.5% pyrethrin spray, 1 to 2 ounces per animal per day, or a 0.1% pyrethrin water-diluted spray, 1 to 2 quarts per animal three times a week. Ciodrin, a newly approved material, as a 2.0% oil or water spray at 1 to 2 ounces per animal daily or 1.0% in water, 1 pint per animal per week, may be worth trying.

Under severe infestations, keep the animals in a barn during the day and turn them out for grazing only in the evening.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

For a list of general precautions to use when handling and applying pesticides, write to 280 Natural Resources Building, University of Illinois, Urbana, Illinois, for "Safe Use of Pesticides."

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This weekly report was prepared by H. B. Petty and Steve Moore, Illinois Natural History Survey and Illinois College of Agriculture, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:SEW:dl
7/5/63

Ln7

FOR IMMEDIATE RELEASE July 12, 1963

INSECT SURVEY BULLETIN NO. 13

This is the thirteenth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Chinch bug migrations from small grains to corn should be almost completed by the end of this week (July 12-19). Chinch bugs are only numerous enough to damage marginal rows of corn in a few fields in central and eastern Illinois.

Apply dieldrin at 1/2 pound per acre as a barrier 2 to 3 rods wide into the grain field and as far into the corn field as needed. Do not harvest the treated grain until one week after treatment. Also, do not draw conclusions about the effectiveness of dieldrin until 3 or 4 days after treatment.

Grasshoppers continued to hatch in grass and legume fields, and a few fields have concentrations of 'hoppers. As long as there is sufficient food for the 'hoppers, they will remain in these fields. But if defoliation occurs or the hay is cut, the 'hoppers will migrate in search of food. Soybeans, corn or any other green food will be attacked. Inspect hay fields for the presence of grasshoppers.

For pasture or hay crops, use 3/4 pound of sevin, 1 pound malathion, 3/4 pound dibrom or 1/2 pound diazinon per acre. Sevin does not require any waiting period between application and grazing or cutting for hay, but with malathion allow a 7-day interval and with dibrom a 4-day interval. Diazinon may be used on alfalfa provided a 7-day waiting period is observed.

For areas that will not be grazed or used for hay, such as fence rows, ditch banks, roadsides, diverted acres, etc., use 1/8 pound of dieldrin or 1 1/2 pounds of toxaphene to control grasshoppers.

Sevin, dieldrin and toxaphene kill grasshoppers slowly, so do not evaluate results for 2 to 4 days after treatment. These materials provide kill for several days after application, and results have been excellent. Diazinon, dibrom and malathion provide a high initial kill of 'hoppers (within the first day) but little kill after that time. Control has been good with these latter materials.

Blister beetles were observed in localized spots in soybeans. The foliage was being eaten, but the blossoms were not yet harmed. In general the problem is not serious at present, but soybeans should be watched for this pest.

Picnic beetles, as they are called, are now emerging and will soon be a nuisance in many areas. Areas that were dry in May should have fewer beetles than normal, while areas having moderate moisture or above should be more heavily infested. These beetles are about 1/4 inch long, shiny black, and have four yellow spots on their backs. They are attracted to the odor of food. They get into the food at picnics and cookouts. They swarm onto overripe or injured fruits and vegetables in gardens.

Keep gardens and berry patches free of overripe and rotting fruits and vegetables. Preventing injury from other insects will help to reduce the numbers of these pests on vegetable and fruit farms. Sprays of sevin, diazinon or malathion help to control them, but it may be necessary to make repeated applications as beetles migrate into the area. Follow the labels on containers for rate of application and interval between treatment and harvest.

An 0.1 percent pyrethrin spray can be used as a quick knockdown spray at picnics or cookouts.

The mimosa webworms, which are gray to brown worms, are making nests and beginning to skeletonize leaves of mimosa and honey locust in the southern two-thirds of Illinois. A second generation is expected to develop during the next two months. If treatment is needed, mix a spray containing 2 teaspoons of 50-57% malathion, or 60% toxaphene, or 1 tablespoon of lead arsenate per gallon of water. Combining malathion and lead arsenate has proved very effective in controlling this pest.

Face fly populations are increasing noticeably in the northern two-thirds of the state. Observe cattle on pasture between 10 a.m. and 4 p.m. on clear days to see how numerous these flies are. The problem can be expected to worsen during succeeding weeks.

For dairy cattle. Brush 0.2% DDVP in corn syrup on the foreheads each morning. Use a DDVP concentrate and mix with corn syrup as needed. Commercial ready-to-use baits may be ineffective. Dairymen who wish to try a new remedy for face flies should obtain a 2.0% Ciodrin oil solution. Apply at the rate of 1 to 2 ounces per animal as needed, but 2 to 3 applications per week should be adequate. Ciodrin has federal label approval for use on dairy and beef cattle.

For beef cattle. Use a rubbing device, preferably constructed of cloth, burlap or canvas, and keep it well saturated with a 5.0% toxaphene-oil solution. Locate these devices surrounding salt, mineral or watering units to insure their use. 2.0% Ciodrin in oil can also be used on beef cattle conveniently from an automatic sprayer. Apply 1 to 2 ounces per animal 2 to 3 times per week. Allow 30 days to elapse between treatment and slaughter when using toxaphene.

Salt blocks, mineral supplements or other feeds containing either phenothiazine or ronnel are not recommended for face fly control even though they may give good control of horn flies. Even though ronnel, not phenothiazine, when fed to beef cattle in small amounts each day, will prevent face fly maggots from developing in the manure, there will be just as many face fly adults on the cattle as before treatment because of migration from neighboring herds.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

For a list of general precautions to use when handling and applying pesticides, write to 280 Natural Resources Building, University of Illinois, Urbana, Illinois, for "Safe Use of Pesticides."

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This weekly report was prepared by H. B. Petty and Steve Moore, Illinois Natural History Survey and Illinois College of Agriculture, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

SM:ss
7/12/63

I-n 7

FOR IMMEDIATE RELEASE July 19, 1963

INSECT SURVEY BULLETIN NO. 14

This is the fourteenth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Grasshoppers are still hatching in hay fields and diverted acres in the northern half of Illinois. The infestations are spotted but seem to be higher and more general in the northwestern section. Here infestations are severe enough to noticeably reduce hay yields in many fields. Furthermore these grasshoppers will migrate to corn, soybeans and other crops when the hay is cut.

Questions are being asked about the effects of the recent rains. Hard, beating rains either kill or bury tiny, newly hatched grasshoppers but do not affect them after they are two or three days old.

Right now is a good time to control 'hoppers in hay crop fields. 'Hoppers are small, new plant growth is short and it is still possible to get good coverage. Later, additional foliage will act as an umbrella; the spray will remain on top of the plants, while the 'hoppers underneath will not be affected.

For pasture or hay crops, use 3/4 pound of sevin, 1 pound malathion, 3/4 pound dibrom or 1/2 pound diazinon per acre. Sevin does not require any waiting period between application and grazing or cutting for hay, but with malathion allow a 7-day interval and with dibrom a 4-day interval. Diazinon may be used only on alfalfa, provided a 7-day waiting period is observed. For best results, apply in the late afternoon. These four insecticides are the only ones recommended for hay crops or pastures for dairy animals or livestock fattening for slaughter.

If alfalfa or clovers are in bloom, apply insecticides only in the late afternoon or early evening to avoid killing pollinating insects. If your sprayer has been used for 2,4-D, clean it out thoroughly before spraying legumes or soybeans.

For those areas that will not be grazed or used for hay, apply 1 ounce of dieldrin or 1 pound of toxaphene per acre to control the small 'hoppers now. In another week it may require 2 ounces of dieldrin or 1 1/2 pounds of toxaphene to control them.

For soybeans or corn for grain, use 1 to 2 ounces of dieldrin or 1 1/2 pounds of toxaphene per acre. Allow 60 days to elapse between application of dieldrin and harvest. If corn or soybeans are to be used for ensilage, hay or pasture, use sevin or malathion with a 7-day interval between application and harvest. Diazinon can be used on ensilage corn with a 14-day interval between application and harvest.

In northwestern Illinois, hay crop fields, particularly alfalfa, have leafhoppers, plant bugs, alfalfa caterpillars, pea aphids and other pests in them. Treatment will control these insects along with the grasshoppers, improving hay yield and quality.

Blister beetles are also common in alfalfa and clover fields. They are usually associated with grasshopper infestations, particularly those of the previous year.

Stable flies may become more bothersome to livestock in the near future, since the rains provide necessary moisture for successful survival of the stable fly maggots. The same can be said about house flies.

For dairy cattle, apply 2.0% ciodrin, 1.0% DDVP or 0.1% pyrethrin in a mineral oil base. Spray at the rate of 1 to 2 ounces per animal per day or as often as needed. Be sure to spray the undersides and legs.

For beef cattle, apply a 0.5% toxaphene water-diluted spray at 1 to 2 quarts per animal every three weeks. Allow 30 days to elapse between treatment and slaughter when using toxaphene. Thorough coverage of the animal is important for effective results. Ciodrin, 2.0% in oil, applied two or three times a week with an automatic sprayer can also be used effectively.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This will not only insure personal safety, but will also eliminate insecticide residue hazards.

For a list of general precautions to use when handling and applying pesticides, write to 280 Natural Resources Building, University of Illinois, Urbana, Illinois, for "Safe Use of Pesticides."

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HBP:kb
7/18/63

In 7

FOR IMMEDIATE RELEASE July 26, 1963

INSECT SURVEY BULLETIN NO. 15

This is the fifteenth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Grasshoppers have been hatching in hay crop fields for the past three weeks. Although dry weather this year delayed hatching of the overwintering eggs, most of them have now hatched. The rains of the past week did kill some of the small grasshoppers, but not enough to reduce the problem.

Infestations are more common and grasshoppers are present in greater numbers in the northwestern area than elsewhere. Here the effects of their feeding on the growth of alfalfa and red clover, although just now appearing, will become progressively more apparent during the next two weeks. Not only will yields of hay be reduced in many fields, but the grasshoppers may migrate to corn and soybeans either before or just as the hay is being cut. In many fields control now will save hay yields and can almost eliminate later migrations to corn and soybean fields.

To avoid killing pollinating insects if alfalfa or clovers are in bloom, apply insecticides only in the late afternoon or early evening. If your sprayer has been used for 2,4-D, clean it out thoroughly before spraying legumes or soybeans.

For pasture or hay crops, apply 3/4 pound of sevin, 1 pound of malathion or 3/4 pound of dibrom per acre. Sevin does not require any waiting period between application and grazing or cutting for hay, but with malathion allow a 7-day interval and with dibrom a 4-day interval. Diazinon may be used only on alfalfa, provided a 7-day waiting period is observed. For best results, apply in the late afternoon. These four insecticides are the only ones recommended for hay crops or pastures for dairy animals or livestock fattening for slaughter.

Occasionally grasshoppers can be trapped into narrow uncut strips of clover or alfalfa and then sprayed, reducing the overall cost of materials. Leave a few uncut swaths around the margin of the field and one swath a rod or so wide through the center of the field. As you cut the remainder of the field, the 'hoppers will concentrate in them. Then spray these uncut strips.

If areas will not be grazed or used for hay, apply 1 to 2 ounces of dieldrin or 1 1/2 pounds of toxaphene per acre to control small 'hoppers.

For soybeans or corn for grain, use 1 to 2 ounces of dieldrin or 1 1/2 pounds of toxaphene per acre. Allow 60 days to elapse between application of dieldrin and harvest. If corn or soybeans are to be used for ensilage, hay or pasture, use sevin or malathion with a 7-day interval between application and harvest. Diazinon can be used on ensilage corn with a 14-day interval between application and harvest.

Corn borer populations may increase noticeably this year in the area north and west of a line from Quincy to Bloomington to Rockford. First-generation numbers in this area are the highest since 1958, and most of these first-generation borers are pupating now to form a second generation; some moths have already appeared. Considering the increase in the first-generation population and the high percentage that are pupating, corn borers could very well be more numerous this fall than in any other year since 1955. The second generation is the one that causes ear drop in late corn.

Moth emergence, which is one to two weeks earlier than in other years, varied from 5 to 20 percent this past week. These early emerging moths are searching for fields of corn in pretassel to early silk in which to deposit eggs. If they are unable to find fields in this stage, they will deposit eggs on any corn.

Treatment of field corn to control second-generation borers is difficult. If 100 egg masses per hundred plants are present, an application of 1 pound of actual DDT as granules will provide good control. Do not apply to fields to be used for livestock grazing or for ensilage.

Second-generation borers are a severe problem to growers of canning sweet corn. If egg mass counts reach 25 per 100 plants and the corn is 15 or more days from harvest, a control program should be started. Fieldmen should start examining fields immediately for corn borer egg masses.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

For a list of general precautions to use when handling and applying pesticides, write to 280 Natural Resources Building, University of Illinois, Urbana, Illinois, for "Safe Use of Pesticides."

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In 11

FOR IMMEDIATE RELEASE

August 2, 1963

INSECT SURVEY BULLETIN NO. 16

This is the sixteenth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borer egg masses for a second generation are now being deposited in numbers. Over 90 percent of the first-generation borers have pupated in east, central, and northwestern Illinois; 25 to 75 percent of the moths have already emerged. In northeastern Illinois, pupation and emergence are somewhat later. In all areas except northeastern Illinois, egg-laying should reach its peak next week if nights are warm and calm, but some eggs will continue to be laid through mid- to late August.

The moths will remain in the fields from which they emerged and will deposit eggs in these fields for a short time. Then they will migrate to late-developing corn, where they will concentrate their egg-laying.

Sweet corn canners should already have started a control program in late fields of corn, particularly those to be harvested after August 15.

In field corn it is difficult to determine which fields will have enough infestation to profit from control. If there are 100 or more egg masses per 100 plants, treatment could be profitable. But do not treat corn that is to be used for ensilage. One pound of DDT per acre in the form of granules or 1 1/2 pounds as a ground spray should provide adequate control on corn to be harvested only as grain.

One factor that may greatly affect egg-laying is a protozoan parasite that first appeared in Illinois in the early 1950s. In some fields we have found as high as 70 percent of the pupating first-generation borers infected by this parasite. Infected moths are often incapable of laying eggs or may lay infertile eggs. Fertile eggs from infected moths often produce borers that live only a short time. We are unable to assess the overall effect this disease may have on numbers of second-generation borers.

Grasshoppers are still abundant in many hay fields in Illinois. The highest numbers of grasshoppers and the highest percentage of infested fields are in northwestern Illinois. Damage is apparent in some hay fields now. These grasshoppers will migrate when the hay is cut.

To avoid killing pollinating insects if alfalfa or clovers are in bloom, apply insecticides only in the late afternoon or early evening. If your sprayer has been used for 2,4-D, clean it out thoroughly before spraying legume or soybeans.

For pasture or hay crops, apply 3/4 pound of sevin, 1 pound of malathion or 3/4 pound of dibrom per acre. Sevin does not require any waiting period between application and grazing or cutting for hay, but allow a 7-day interval with malathion and a 4-day interval with dibrom. Diazinon may be used only on alfalfa,

provided a 7-day waiting period is observed. For best results, apply in the late afternoon. These four insecticides are the only ones recommended for hay crops or pastures for dairy animals or livestock fattening for slaughter.

Occasionally grasshoppers can be trapped into narrow uncut strips of clover or alfalfa and then sprayed, reducing the overall cost of materials. Leave a few uncut swaths around the margin of the field and one swatch a rod or so wide through the center of the field. As you cut the remainder of the field, the 'hoppers will concentrate in these strips of uncut hay. Then spray the uncut strips.

If areas will not be grazed or used for hay, apply 1 to 2 ounces of dieldrin or 1 1/2 pounds of toxaphene per acre to control small 'hoppers.

For soybeans or corn for grain, use 1 to 2 ounces of dieldrin or 1 1/2 pounds of toxaphene per acre. Allow 60 days to elapse between application of dieldrin and harvest. If corn or soybeans are to be used for ensilage, hay or pasture, use sevin or malathion with a 7-day interval between application and harvest. Diazinon can be used on ensilage corn with a 14-day interval between application and harvest.

Blister beetles, as reported a few weeks ago, are common in hay crop fields and soybean fields. In addition they are also eating weeds in corn fields. When grasshopper egg pods are abundant, as they were this past winter and spring, the larvae of blister beetles feed in them. This is the reason for the abundance of blister beetles this summer.

Rarely is it necessary to control blister beetles, but in soybeans 1 1/2 pounds of toxaphene will control grasshoppers and noticeably reduce the number of blister beetles. In hay crop fields, dibron and sevin are reported to be effective against blister beetles.

Adult chinch bugs in late corn were also observed this week. Basal sprays of 1/4 pound of dieldrin or 1 1/2 to 2 pounds of toxaphene per acre will control them if they are numerous enough to be damaging.

Fall armyworms have been observed in corn in pretassel. Several plants in an area are ragged from chewing. Infestations to date have not been significant, and control is not recommended. Another generation may infest ears in late August or early September.

Sod webworm moths have been flying for several days. We apparently have had at least one generation of webworms thus far, and another generation will soon be here if it is not here already.

Clipped brown spots in sod areas may be evidence of webworm feeding. Careful examination of the sod may reveal the silken tunnels or cases and possibly the worms themselves.

Several insecticides can be used to control webworms in lawns. Sevin, 1/4 to 1/2 pound, diazinon, 1/4 pound, DDT, 1/8 pound, or dieldrin, 1/2 ounce, can be used for each 2500 square feet of surface. Where birds are extremely abundant, it would be best to use sevin.

White grub infestations have been reported in lawns. Damage appears as dead spots. When the sod is rolled back, the grubs can be seen feeding on the roots. To control these infestations, apply chlordane or dieldrin as a spray and immediately water it thoroughly into the soil.

Special note to sweet corn canners: An occasional ear worm moth has appeared at the light trap during the past 10 days.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

For a list of general precautions to use when handling and applying pesticides, write to 280 Natural Resources Building, University of Illinois, Urbana, Illinois, for "Safe Use of Pesticides."

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SM:dl
8/2/63

FOR IMMEDIATE RELEASE August 9, 1963

INSECT SURVEY BULLETIN NO. 17

This is the seventeenth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borer pupation of first generation, as expected, commonly has exceeded 90 percent. Emergence of moths from these pupae varies now from 60 to 90 percent. Egg laying has reached its peak in western Illinois and should reach its peak in northwestern Illinois this weekend, or at least during this coming week. From egg counts, we believe that corn borer population will increase in the area from Quincy to Peoria to Rockford. Also in this area, second generation damage will be quite noticeable in the later field corn; this will be in the form of chaffy ears and dropped ears at harvest.

Grasshopper damage in some hay fields, particularly red clover, in northern Illinois is noticeable. There are two species of grasshoppers present, the red legged and the differential. Some of the red legged grasshoppers, the smaller of the two, are now becoming adults and flying. Differential grasshoppers, the larger green or yellow species, are still present as nymphs and will continue to feed for some time. After grasshoppers become adults they concentrate on depositing their eggs in the soil and do not eat as voraciously as when in the immature or nymph stage.

For the most part, rains have supplied sufficient moisture for luxuriant plant growth. This growth has supplied grasshoppers with enough food, so they have not needed to migrate. Many are remaining in mowed hay fields, feeding on the tender new growth. In a few instances, however, the grasshoppers have migrated to soybeans and corn.

To avoid killing pollinating insects when alfalfa or clovers are in bloom, apply insecticides only in the late afternoon or early evening. If your sprayer has been used for 2,4-D, clean it thoroughly before spraying legumes or soybeans.

For pasture or hay crops, apply 3/4 pound of sevin, 1 pound of malathion or 3/4 pound of dibrom per acre. Sevin does not require any waiting period between application and grazing or cutting for hay, but allow a 7-day interval with malathion and a 4-day interval with dibrom. Diazinon at 1/2 pound per acre may be used only on alfalfa, provided a 7-day waiting period is observed. For best results, apply in the late afternoon. These four insecticides are the only ones recommended for hay crops or pastures for dairy animals or livestock fattening for slaughter.

Occasionally grasshoppers can be trapped into narrow, uncut strips of clover or alfalfa and then sprayed, reducing the overall cost of materials. Leave a few uncut swaths around the margin of the field and one swath a rod or so wide through the center of the field. As you cut the remainder of the field, the 'hoppers will concentrate in these strips of uncut hay. Then spray the uncut strips.

If areas will not be grazed or used for hay, apply 1 to 2 ounces of dieldrin or 1 1/2 pounds of toxaphene per acre to control small 'hoppers.

For soybeans or corn for grain, use 1 to 2 ounces of dieldrin or 1 1/2 pounds of toxaphene per acre. Allow 60 days to elapse between application of dieldrin and harvest. If corn or soybeans are to be used for ensilage, hay or pasture, use sevin or malathion with a 7-day interval between application and harvest. Diazinon can be used on ensilage corn with a 14-day interval between application and harvest.

Fall armyworm moth flight continues and late fields in pretassel stages have shown some worm damage in the whorl. This has occurred throughout the state. In general, damage has been of minor importance.

Sod webworm damage to turf may occur any time from now on. But do not confuse this damage with other similar problems as the after effects of dry weather.

Several insecticides can be used to control webworms in lawns: 1/4 to 1/2 pound of sevin, 1/4 pound of diazinon, 1/8 pound of DDT, or 1/2 ounce of dieldrin can be used for each 2,500 square feet of surface. Where birds are extremely abundant, it would be best to use sevin.

Stable flies are particularly bad on cattle; cattle fight flies by stamping, kicking, and switching. It was quite noticeable this week. Stable flies resemble common house flies but are found most commonly on the legs and undersides of the cattle. They pierce the skin with their needle-like mouth parts and suck blood.

For dairy cattle, apply 2.0% ciodrin, 1.0% DDVP or 0.1% pyrethrin in a mineral oil base. Spray at the rate of 1 to 2 ounces per animal per day or as often as needed. Be sure to spray the undersides and legs.

For beef cattle, apply a 0.5% toxaphene water diluted spray at 1 to 2 quarts per animal every three weeks. Thorough coverage of the animal is important for effective results. Allow 30 days to elapse between treatment and slaughter when using toxaphene. Ciodrin 2.0% in oil applied two or three times a week with an automatic sprayer can also be used effectively.

Face fly populations remain low.

For dairy cattle, brush 0.2% DDVP in corn syrup on the foreheads each morning. Use a DDVP concentrate and mix with corn syrup as needed. Commercial ready-to-use baits may be ineffective. Dairymen who wish to try a new remedy for face flies should obtain a 2.0% ciodrin oil solution. Apply at the rate of 1 to 2 ounces per animal as needed, but 2 to 3 applications per week should be adequate. Ciodrin has federal label approval for use on dairy and beef cattle.

For beef cattle, use a rubbing device, preferably constructed of cloth, burlap or canvas, and keep it well saturated with a 5.0% toxaphene-oil solution. Locate these devices surrounding salt, mineral or watering units to insure their use. 2.0% ciodrin in oil can also be used on beef cattle conveniently from an automatic sprayer. Apply 1 to 2 ounces per animal 2 to 3 times per week. Allow 30 days to elapse between treatment and slaughter when using toxaphene.

Salt blocks, mineral supplements or other feeds containing either phenothiazine or ronnel are not recommended for face fly control even though they may give good control of horn flies. Even though ronnel, not phenothiazine when fed to beef

cattle in small amounts each day, will prevent face fly maggots from developing in the manure, there will be just as many face fly adults on the cattle as before treatment because of migration from neighboring herds.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

For a list of general precautions to use when handling and applying pesticides, write to 280 Natural Resources Building, University of Illinois, Urbana, Illinois, for "Safe Use of Pesticides."

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This weekly report was prepared by H. B. Petty and Steve Moore, Illinois Natural History Survey and Illinois College of Agriculture, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:cs
8/9/63

In7

FOR IMMEDIATE RELEASE August 16, 1963

FINAL ISSUE, INSECT SURVEY BULLETIN, 1963

This is the eighteenth and final issue in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borer moth emergence reached its peak in the northwest section of Illinois this week. Egg counts on field corn averaged 80 to 100 per 100 plants on late-maturing fields and 10 to 40 per 100 in early-maturing fields. Approximately 50 to 75 percent of these eggs had hatched. Cool nights have slowed egg-laying, which will continue in this area for the next two or three weeks. Total egg accumulations in these fields during this period should be about double the current counts. Corn borer development in western Illinois is slightly ahead of the northwest section, and egg-laying should be over in the next 10 days to two weeks in this area. The area of heaviest borer infestation lies north and west of a line from Quincy to Peoria to Rockford.

If there are 100 or more egg masses per 100 plants, treatment could be profitable. But do not treat corn that is to be used for ensilage. One pound of DDT per acre in the form of granules or 1 1/2 pounds per acre as a ground spray should provide adequate control on corn to be harvested only as grain.

Grasshopper populations continued heavy in hay fields, and some damage is apparent. Northwestern Illinois is the focal point. Some 'hoppers have already reached the adult stage, while many others are only 1/3 to 1/2 grown and will feed vigorously for the next few weeks. There appears to be adequate food in the hay fields, and little migration has taken place into adjacent soybeans and corn. Grasshoppers will migrate to the margins and adjoining fence rows when hay fields are cut. This is a good place to treat them while they are confined and before further migrations occur.

For pasture or hay crops, apply 3/4 pound of sevin, 1 pound of malathion or 3/4 pound of dibrom per acre. Sevin does not require any waiting period between application and grazing or cutting for hay, but allow a 7-day interval with malathion and a 4-day interval with dibrom. For best results, apply in the late afternoon or early evening.

If areas will not be grazed or used for hay, apply 1 to 2 ounces of dieldrin or 1 1/2 pounds of toxaphene per acre for control.

For soybeans or corn for grain, use 1 to 2 ounces of dieldrin or 1 1/2 pounds of toxaphene per acre. Allow 60 days to elapse between application of dieldrin and harvest. If corn or soybeans are to be used for ensilage, hay or pasture, use sevin or malathion with a 7-day interval between application and harvest.

Armyworms have been reported in corn where grass is abundant. One-half pound of dieldrin per acre may be used to control armyworms in corn, provided 60 days are allowed to elapse between harvest or cutting for ensilage. Toxaphene at 1 1/2 pounds per acre may be used on corn that is not to be used for ensilage or stover.

Webworms may attack fall-seeded alfalfa. In severe infestations the small seedlings may be killed. If the worms are numerous and damaging plants, apply 1 1/2 pounds of DDT or toxaphene per acre before webbing becomes general. Do not use for hay or pasture this fall. If the seeding is to be pastured or cut for hay, use 1 1/2 pounds of methoxychlor or sevin per acre. Allow 7 days between treatment and harvest or pasturing when using methoxychlor. There is no waiting period for sevin.

House fly populations have increased greatly during the past few weeks. A continued increase can be expected until cool weather arrives. Follow these three steps:

1. Practice good sanitation; clean fly-breeding areas as often as is practical.

2. Apply a barn spray material, such as dimethoate, diazinon or ronnel, to the point of runoff to the ceilings and walls of all livestock buildings except poultry houses. Use only ronnel in poultry houses.

3. Supplement the spray application with spray bait applications, using the same insecticide with a corn sirup and water solution (2:1 ratio). Other insecticide baits may be used as supplementary measures.

Mosquitoes are common in some areas, and homeowners can help by following these suggestions:

1. Eliminate any standing water such as accumulates in eave troughs, children's toys, cans, old tires and other places.

2. Spray shrubbery and tall grass with malathion. Use 1 tablespoon of the 50-57 percent emulsion concentrate per gallon of water. Weekly treatments may be needed as continued flights of mosquitoes occur.

3. Fog or use a fine spray of 0.1% pyrethrin in water or oil for temporary relief at cookouts, picnics, camping or even indoors if needed.

4. When entering mosquito-infested areas, use a repellent on all exposed parts of the body. The best mosquito repellent available is diethyl toluamide (DET).

Crickets, spiders and ants may be a problem at any time. To prevent these insects from entering the house, apply a water-base spray of 2% chlordane or 0.5% dieldrin to the outside foundation. Spray to the point of runoff the area from the sill to the soil level around the entire house. Pay particular attention to areas under porches and around steps. Approximately 3 to 5 gallons of diluted spray is adequate for the average home. Do not apply directly on shrubbery or flowers.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty and Steve Moore, Illinois Natural History Survey and Illinois College of Agriculture, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

HBP:je
8/16/63

FOR IMMEDIATE RELEASE April 17, 1964

INSECT SURVEY BULLETIN NO. 1

This is the first in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

European corn borer survival this past winter was normal in western Illinois but above normal in northern Illinois. With the low borer populations of the past few years, parasite numbers have also decreased noticeably. This decrease may have contributed to slightly higher borer survival this past winter. On the basis of this survival and the overwintering borer populations, farmers in the area north and east of a line from Rockford to Joliet to Quincy should plow stalks cleanly whenever possible and disk thoroughly when not plowing. They should avoid early planting, particularly on soils of high fertility, and use adapted hybrids or, if early planting is necessary, be sure to use a full-season hybrid.

Clover leaf weevil populations have been higher than normal in western Illinois, but this past week of warmer weather may enable the plants to grow away from any weevil damage. Furthermore, higher temperatures help to spread a fungus disease that kills these green worms. The worms feed at night and hide in the ground trash during the day. Insecticides should be applied only when damage is extreme.

Fungus flies will soon appear in wheat fields, particularly in wheat on soybean stubble. These flies are in the decaying organic material and do not feed on wheat.

Sawfly larvae will probably appear in wheat fields during the next few weeks. Do not confuse these green to yellow velvety-appearing, almost transparent larvae, with the true armyworm, which is a striped worm.

Armyworm moths have appeared in very low numbers this week. There is no indication of the extent of the flight.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Steve Moore and Clarence E. White, Illinois Natural History Survey and Illinois College of Agriculture, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

FOR IMMEDIATE RELEASE April 24, 1964

INSECT SURVEY BULLETIN NO. 2

This is the second in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Spittlebugs are now hatching. Extreme northwestern Illinois counties had the highest populations in the state last fall. If you are interested in maximum hay production, the time to apply insecticides is now. However, for chemical control to be profitable, you should find an average of at least one nymph per stem. To determine the number present, sample stems from several areas in the field. Examine leaf sheaths, folded leaves and stems for the tiny yellow to orange nymphs that will be in tiny droplets of froth. If insecticides are needed, apply 1 pound of actual methoxychlor per acre and allow one week to elapse between application and harvest or grazing.

Armyworm moths are becoming more abundant. These moths migrate from the southern states, and the migration continues for several weeks. This is a typical armyworm spring--wet and cool.

The moths will deposit eggs for several weeks. The first moths that arrive lay eggs in timothy and bluegrass fields. A little later they select winter barley and rye for egg-laying. When the main flight occurs, winter wheat is in an attractive stage of growth.

The abundance of armyworms can not be predetermined by extent of moth flight, but only by numbers of worms in fields the latter part of May.

Lesser clover leaf weevils are more abundant than usual in clover fields. The young burrow into clover stems behind leaf sheaths; infested stems wilt and break over at the point of feeding. No control measures are known.

Spring cankerworms will soon be feeding on the new elm buds. Those measuring worms when present in damaging numbers can be controlled with sprays of lead arsenate.

Face flies will soon leave hibernating areas and will appear suddenly on cattle in pasture. These overwintering flies mate and lay eggs for the first spring generation. Fly development is slow; it takes several weeks for the first new flies to appear. Control the few face flies now, and help to prevent a buildup later.

Dairymen can use a 2.0% ciodrin oil-base spray at 1 to 2 ounces per animal as needed or a brush-on face bait containing 0.2% DDVP in corn sirup.

For beef cattle, the ciodrin oil-base spray is practical only if applied with an automatic sprayer, because frequent treatments are needed; 5.0% toxaphene in mineral oil used in a backrubber will help to hold face flies in check on pastured beef cattle. Allow 28 days to elapse between treatment with toxaphene and slaughter of the animals.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Steve Moore and E. White, Illinois Natural History Survey and Illinois College of Agriculture, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

FOR IMMEDIATE RELEASE May 1, 1964

INSECT SURVEY BULLETIN NO. 3

This is the third in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Clover leaf weevils are abundant in some fields in western Illinois north of St. Louis. However, the clover is growing rapidly, and the weevil feeding is not retarding growth. Furthermore, a fungus disease of the weevils is now killing some of them. We saw no fields requiring control measures.

Armyworm moths are still very abundant. These large, brown, heavy-bodied moths can be found hiding during the day in shrubs and tall grasses. At night they are attracted to lights and can also be found in large numbers around trees in blossom. The moths deposit eggs in rank stands of grain and grasses, and the worms migrate from these areas. Small, newly hatched worms were found in southern Illinois this week. Later counts will determine the importance of these worms.

Spotted alfalfa aphids were collected for the first time this year. However, only a few were present. This experience is similar to that of last year, when this aphid did not present any problem.

Cankerworms were observed feeding on elm in western and southwestern Illinois this week. These worms can be controlled with lead arsenate sprays.

Elm leaf beetles are migrating from hibernating quarters to Chinese elms. These beetles are about 1/4 inch long with yellow legs and antennae and dirty-yellow bodies. In the process of leaving hibernating quarters alongside buildings, some beetles will get into homes, where they are annoying but not damaging. The larvae are the ugly yellow worms that will skeletonize Chinese elm leaves. There are two generations each year. Sevin or lead arsenate sprays provide control.

Ants are now foraging for food. These pests commonly live in nests in the soil and migrate into homes for food. A foundation spray of 1/2% dieldrin or 2% chlordane will control them before they can enter your home. Buy an emulsifiable concentrate, dilute it with water to the proper strength and apply this spray to the outside foundation all the way around the house.

Variegated cutworms, newly hatched, were found in clover and alfalfa in southern Illinois. It is too soon to determine their importance, but they will bear watching.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Steve Moore and C. E. White, Illinois Natural History Survey and Illinois College of Agriculture, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

FOR IMMEDIATE RELEASE May 8, 1964

INSECT SURVEY BULLETIN NO. 4

This is the fourth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Alfalfa weevil, sometimes considered the most serious insect pest of alfalfa in the United States, was found in Illinois for the first time two weeks ago. This insect, an imported one, has been present for many years in the western section of the United States and for a dozen or more years in the eastern section. It was present in Ohio and Kentucky last year, and then this spring the Missouri and Illinois infestations were found.

Weevils have been found in 13 of the counties south and east of a line from Lawrenceville to Salem to Carbondale. Only a few have been found, but the infestation is so widespread that a suppression program would be hopeless. However, the populations are so low that damage will not occur this year and individual farmers would not profit from control measures. It will be a few years before this insect increases enough to warrant control measures; but once the weevil is well established, alfalfa hay production may be impossible unless control practices are carried on faithfully.

Spittlebugs have been observed, but not in large numbers.

Potato leafhoppers are tiny wedge-shaped green insects, often referred to as green gnats when they swarm out of alfalfa fields as they are being cut. These insects winter in the southern United States, migrating northward in the spring. They appeared in moderate numbers in Illinois this week, having migrated in on the high winds.

The feeding of this pest stunts alfalfa, which turns yellow to purple. No control measures are recommended at this time.

Face flies were observed on cattle this week. Dairymen can use 2.0% ciodrin in oil on their cattle. If automatic sprayers are used, beef cattle can also be treated with ciodrin; otherwise, 5.0% toxaphene in a backrubber will help to hold face flies in check. Allow 28 days to elapse between treatment with toxaphene and slaughter.

Clover mites have been active for the past few weeks. These pests have wintered in the walls of the house and are now appearing outdoors as well as indoors. They appear as tiny brown to red moving specks. To prevent reinfestation this fall, remove the sod for a distance of at least 18 inches and preferably 24 inches all the way around the house. Plant flowers and shrubs in this area.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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This weekly report was prepared by H. B. Petty, Steve Moore and C. E. White, Illinois Natural History Survey and Illinois College of Agriculture, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gath-

FOR IMMEDIATE RELEASE May 14, 1964

INSECT SURVEY BULLETIN NO. 5

This is the fifth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Alfalfa weevils have now been found in the following counties: Pope, Hardin, Massac, Pulaski, Alexander, Union, Jackson, Johnson, Williamson, Franklin, Jefferson, White, Wayne, Wabash, Marion, Lawrence, Crawford and Jasper. Larvae have also been collected, and new adults should emerge in the most southern counties in three to four weeks. We are not recommending control measures at this time, since populations are extremely low.

Potato leafhoppers appear to be more numerous than usual. Ordinarily there are at least two migratory flights of these tiny green wedge-shaped insects into Illinois from the south. The first, which was heavier than normal this year, is complete. The magnitude of the second flight will determine the importance of leafhoppers for this year.

Corn borer pupation is progressing rapidly. The overwintering borers are rapidly transforming into the torpedo-shaped pupae. Pupation is complete in southern Illinois; 40 percent of the borers have pupated in the south-central section, 25 percent in the central section, and 15 percent in the north-central section.

The area in which borers could cause trouble this year lies west of a line from Rockford to Joliet and north of a line from Joliet to Pittsfield. Although some borers will be found readily in other areas of Illinois, control will not be profitable.

Armyworms may appear in luxuriant stands of small grains or grasses in southern Illinois. If you find six or more per linear foot of row, use toxaphene, 1 1/2 pounds, or dieldrin, 1/4 pound, per acre, for control in small grains. Allow one week to elapse between treatment and harvest for wheat and rye, but allow 14 days when toxaphene is used on barley. Do not feed treated forage to livestock.

Variegated cutworms may be present in numbers in clover and alfalfa fields in southern Illinois. After the first crop is removed and before new growth starts, apply sevin or toxaphene if worms are devouring the new shoots. Toxaphene should not be applied to hay fields when growth is over four inches.

Face flies are still not abundant on cattle, but questions are being asked about internal medication with phenothiazine and ronnel for control on beef cattle. These materials are mixed in feeds, mineral supplements, or salts. Their use greatly reduces the number of horn fly maggots, and ronnel also reduces face fly maggots in the fresh manure. Control of adult horn flies is satisfactory, since they do not migrate but stay right on the farm where they are produced. However, adult face flies do migrate readily from one farm to another. Therefore, the use of ronnel will reduce the number of face flies only a small percent. Feeding phenothiazine to beef cattle will have no measurable effect on face fly populations. Neither of these two materials is cleared for use on dairy cattle.

Pine needle scales are now hatching in central Illinois. The small scales are in the crawler stage and are susceptible to insecticide treatment. Tiny white spots on the needles are an indication of infestation.

For control, use malathion, two applications at 10-day intervals, at the rate of 1 quart of 50-57 percent emulsion concentrate per 100 gallons of water.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

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FOR IMMEDIATE RELEASE May 22, 1964

INSECT SURVEY BULLETIN NO. 6

This is the sixth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Armyworms are numerous in luxuriant stands of wheat, barley and rye. Most of the worms are about 1/2 to 2/3 grown in southern and southwestern Illinois, but have just hatched this past week in central and western Illinois. These small, newly-hatched worms stay close to the soil surface and are difficult to find since their feeding is slight. Larger worms may be found in grass pastures since moths lay their eggs here first. Do not confuse armyworms with sawfly larvae that are now also being found in grain fields. They are green to yellow, velvety, transparent-skinned larvae; true armyworms are striped and smooth-skinned. The unimportant sawfly larvae can be distinguished from armyworms by the number of abdominal prolegs, the fleshy legs on the underside of the abdomen. Sawflies have six or more pairs of these abdominal prolegs while the true armyworms have only four pairs.

If there are six or more armyworms per linear foot of drill row, treatment is suggested. Apply insecticides when the worms are 1/2 to 3/4 inch long; 80% of their feeding damage will be done from this size until they become full-grown. Apply dieldrin 1/8 to 1/4 pound per acre, or toxaphene, 1 1/2 pounds per acre. Allow one week to elapse between treatment and harvest of the grain for wheat and rye, but allow 14 days when toxaphene is used on barley.

For grass pastures, carbaryl (Sevin), 1 1/2 pounds per acre, or methoxychlor, two pounds per acre is suggested. Methoxychlor does not kill the armyworms but does prevent further feeding. Allow seven days between treatment and pasturing of livestock when methoxychlor is used.

The greatest mistake made in armyworm control is to panic and apply insecticides when they are not necessary. Do not use insecticides unless the worms are present in numbers sufficient to warrant treatment.

High temperatures speed up the rate of armyworm growth, but, at the same time, promote the spread of a disease which kills armyworms. The next two weeks will be the critical time to count live worms and decide on insecticide applications.

Variegated cutworms may be present in numbers in clover and alfalfa fields. After the first crop is removed and before new growth starts, apply Sevin or toxaphene if worms are devouring the new shoots. Toxaphene should not be applied to hay fields when growth is over four inches.

Black cutworms are reported to be damaging corn in some fields of central Illinois. If the plant is cut off above the growing point, or heart, the plant usually recovers. If it is cut off below the growing point, the plant will die. If 10% of the plants are being cut below the growing point, an application of 1/2 pound of dieldrin or three pounds of toxaphene is warranted. Direct the spray at the base of the plant in the soil. Use as much water per acre as possible. Cultivate immediately to cover the insecticide.

Pupation of overwintering European corn borers is complete in southern Illinois, ranges from 50 to 90% complete in central Illinois, and from 25 to 70% complete in northern Illinois. Moth emergence is well underway in southern Illinois and has begun in central Illinois. No moth emergence has been recorded in northern Illinois as yet. Some death of overwintering borers was noted this week.

Borer development is similar to previous years and development of corn is slightly later. However, we will have to be alert to this pest in about four weeks.

Leafhoppers are present in greater numbers in alfalfa fields this year than they have been for several years. These pests migrate into Illinois. The exact area of heaviest infestation has not been determined but it is generally a wedge-shaped area in the central part of the state.

Wireworms and sod webworms have been reported damaging small corn plants.

Horn fly numbers on pastured cattle increased rapidly this week. Several hundred horn flies per animal was common. Stable flies and face flies were present, but in low numbers.

For beef cattle, a 0.5% toxaphene water-base spray every three to four weeks is effective against horn flies. A backrubber containing 5.0% toxaphene in oil is also generally effective. Allow 28 days between treatment with toxaphene and slaughter of the animals.

For dairy cattle, use 2.0% ciodrin, 0.1% pyrethrin, or 1.0% DDVP oil-base spray at 1-2 ounces per animal as needed.

Bees needed for pollination can be killed with pesticides. Do not apply pesticides during mid-day to crops being pollinated by bees.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but also will eliminate residue hazards.

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This weekly report was prepared by H. B. Petty, Steve Moore, and C. E. White, Illinois Natural History Survey and Illinois College of Agriculture, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

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FOR IMMEDIATE RELEASE May 28, 1964

INSECT SURVEY BULLETIN NO. 7

This is the seventh in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Armyworm populations appear to be largest south of Route 9 and in the west-southwestern, western and central areas of the state. Numbers of worms vary greatly from field to field, making it necessary to examine each field. Grass pastures and grass waterways as well as thick and luxuriant stands of small grains are infested. Armyworms now are beginning to migrate in search of more food after they have stripped the leaves from the wheat or grass.

Fly parasites are beginning to deposit eggs on the worms, but it may be too late to control this generation. We have had one report of a disease killing about 10 percent of the migrating worms.

To repeat last week's comments--you do not need to apply insecticides until armyworms are at least 1/2 inch and usually 3/4 inch long; most feeding damage is done after they reach this size. Do not become excited and treat when it is not necessary. Carefully examine the plants, the debris on the soil and the soil crevices; you should find six or more worms per linear foot of drill row to justify the expense of treating. If there are fewer than six per linear foot, treatment may be warranted only if the worms are cutting off the heads of wheat.

If insecticides are needed, apply dieldrin, 1/8 to 1/4 pound per acre, or toxaphene, 1 1/2 pounds per acre. Allow one week to elapse between treatment and harvest of the grain for wheat and rye, but allow 14 days when toxaphene is used on barley. Do not use the straw for livestock feed.

For grass pastures, hay crops or places where there is danger of excessive drift from small grain fields onto dairy pastures, use carbaryl (Sevin), 1 1/2 pounds per acre, or methoxychlor, two pounds per acre. Methoxychlor does not kill the armyworms but does prevent further feeding. Allow seven days between treatment and harvest or pasturing by livestock when methoxychlor is used.

Do not contaminate fish-bearing waters with toxaphene or dieldrin.

Black cutworms are damaging corn in several areas, but mostly in the northern half of the state. If the plant is cut off above the growing point, or heart, it will usually recover. If it is cut off below the growing point, it will die. If 10 percent or more of the plants are being cut below the growing point, an application of 1/2 pound of dieldrin or three pounds of toxaphene is warranted. Direct the spray at the base of the plant in the soil. Use as much water per acre as possible. Cultivate immediately to cover the insecticide. If the field has been destroyed and insecticides are not to be used, consider either replanting with soybeans or, if replanting with corn, delay a few days to allow the worms to mature, and use a hybrid that will mature before frost.

Wireworms are also abundant in spots in some fields. If replanting is necessary, either leave the old stand and straddle the rows to replant or if disking up the old stand, broadcast aldrin or heptachlor at 1 1/2 pounds per acre before disking or use 1 pound per acre as a row application at planting.

Chinch bug adults have left their winter quarters and can be found in grass fields and thin stands of small grains. No high concentrations were found this week.

Corn borer overwintering populations were highest in the area west of a line from Rockford to Joliet and north of a line from Joliet to Pittsfield. Pupation of the overwintering borers is now complete in south and south-central Illinois and ranges from 75 to 90 percent complete in central Illinois and from 50 to 85 percent in north-central and northern Illinois. Slight moth emergence has occurred throughout Illinois.

Corn can be damaged by a variety of things other than insects. This week we saw corn root injury from wind whipping the plants. If no insect can be found, look for some other cause.

Bean leaf beetles are abundant in a few fields of soybeans. Applications of insecticides are usually not required at this time; but if stands actually are being killed, 1 1/2 pounds of toxaphene should control them.

Potato leafhoppers are more abundant on alfalfa than they have been for several years. Second-growth alfalfa north of a line from St. Louis to Paris may be noticeably damaged within the next few weeks. When the new growth is 4 to 6 inches high, shake the plants over a plate. If tiny yellow to green wedge-shaped insects run sidewise across the plate, you may expect the alfalfa soon to turn yellow and purple from leafhopper feeding. To prevent this, apply 1 pound of methoxychlor or Sevin. Allow one week to elapse between application of methoxychlor and harvest or pasture.

Bagworms have hatched in southern Illinois, are or will soon be hatching in central Illinois and will hatch in another two weeks in northern Illinois. To control them, apply sprays of malathion, toxaphene, Sevin or lead arsenate. Do not apply malathion to Cannart red juniper. For small amounts of spray, use one tablespoon of lead arsenate, malathion wettable powder, Sevin wettable powder or 60 percent toxaphene emulsifiable concentrate, or 2 teaspoons of malathion emulsifiable concentrate per gallon of water.

Elm leaf beetle larvae have been feeding on Chinese elms in some areas. Sevin or lead arsenate sprays will control these pests.

Honeybees may be damaged by field applications of insecticides unless precautions are taken: (1) Apply materials when bees are not visiting the field; (2) do not apply insecticides directly to or allow them to drift over hives of bees; (3) where bees are close by (up to 1/2 mile), choose the insecticide least toxic to bees, or notify beekeepers at least 48 hours before application is made; and (4) avoid contamination of clover crops or non-crop plants being visited by bees. More information on bees is available from E. R. Jaycox, University of Illinois Horticulture Department, Urbana, Illinois.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This will not only insure personal safety, but will also eliminate residue hazards.

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This weekly report was prepared by H. B. Petty, Steve Moore, and C. E. White, Illinois Natural History Survey and Illinois College of Agriculture, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

In 7

FOR IMMEDIATE RELEASE June 5, 1964

INSECT SURVEY BULLETIN NO. 8

This is the eighth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Armyworms matured rapidly in the area south of Route 9 this past week. With pupation, worm populations decreased. Small worms are still present in a few fields, but they are the exception. Numbers are also being lowered by disease and parasites. Except for a few unusual fields, treatment in this area should cease. Thick stands of wheat in the area north of Route 9 still have 1/2- to 2/3-grown worms, and occasional fields have threatening numbers.

We have had several reports that armyworm control apparently was not effective. It is difficult to determine immediately. Most insecticides kill armyworms slowly. Only about 25 percent of the worms ordinarily contact the insecticide in the first 24 hours. Cool weather has also slowed down kill. For these reasons, do not try to determine the effectiveness of sprays for 96 hours after application.

Black cutworms rate the "insect of the week" award. Infestations are scattered throughout the state. Worms are not predominantly one size, but vary within a field from small to full grown. Thus the damage will probably continue into the week of June 8.

Many plants are now being cut below the growing point and will not recover. If 10 percent or more of the plants are being cut below the growing point, an application of 1/2 pound of dieldrin or 3 pounds of toxaphene is warranted. Direct the spray into the soil at the base of the plant. Use as much water per acre as possible. Cultivate immediately to cover the insecticide.

Insecticides commonly fail to give a high degree of control, since the worms are below the soil surface where they can not be reached with sprays. Also, as the worms become larger, they are naturally harder to control. If the field has been destroyed and insecticides are not to be used, either consider replanting with soybeans or, if replanting with corn, delay a few days to allow the worms to mature, and use a hybrid that will mature before frost.

Wireworms continue to damage corn in some areas. If replanting is necessary, either leave the old stand and straddle the rows to replant or, if disking up the old stand, broadcast aldrin or heptachlor at 1 1/2 pounds per acre before disking or use 1 pound per acre as a row application at planting.

Corn borer moth emergence is about 75 percent complete in south-central Illinois and ranges from 25 to 75 percent in the central and north-central sections and from 10 to 50 percent in the northern part.

Corn borer development is comparable with that of other years, but corn development is slightly behind schedule. It might therefore appear that potential corn borer survival will be low this year. However, dry weather could delay moth emergence and egg-laying and thus favor survival of borers. Therefore, as usual, the need for insecticide control in the most advanced fields in western and northwestern Illinois can not be determined until egg hatch, which will occur between June 25 and July 5.

Chinch bug adults are plentiful in a few fields where small grain stands are thin, particularly in some areas of eastern and central Illinois. During the next two or three weeks, examine thin stands of small grains for evidence of chinch bug damage. It will appear as prematurely dry or dead areas in grain fields. Corn adjoining such fields may suddently wilt and die. Close examination will show clusters of small red chinch bugs on the stalks.

To control migrations of bugs from small grains to corn, apply 1/2 pound of dieldrin per acre to a strip two rods wide along edge of the grain field and into the corn as far as the chinch bugs have migrated.

The application to the grain field is important if you want to control chinch bugs before they damage corn. For maximum results, cut and remove the grain prior to application; if you spray standing grain, be sure to allow one week to elapse between the application and harvest of the grain. Do not use the straw for livestock feed.

Sod webworm moths were flying this past week in central Illinois. These moths will now lay eggs to produce the first generation of larvae, which seldom cause injury. It is the second generation, occurring in late July and August, that is destructive. Therefore, if controls are needed, it will not be until the middle of this summer.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This will not only insure personal safety but will also eliminate residue hazards.

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Special to farm advisers--not for publication.

Fish kills of a week ago in northwestern Missouri were first attributed to armyworm pesticides. It is now believed that heavy rains washed out the sewers in some major cities. This heavy influx of organic material created a distinct oxygen shortage in the rivers and caused the fish to die.

A further report by the USDA on the Mississippi river fish kills states that "recent public hearings conducted by the Department did not substantiate assumptions that recent fish kills in the lower Mississippi resulted from the use of pesticides on farms...a major source of pesticide residues was an industrial plant manufacturing the chemicals."

FOR IMMEDIATE RELEASE June 12, 1964

INSECT SURVEY BULLETIN NO. 9

This is the ninth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borer pupation is nearly complete throughout Illinois; moth emergence is progressing rapidly, and the moths have begun to deposit eggs on the most advanced corn.

The area where corn is most likely to be damaged by corn borer lies west of a line from Rockford to Joliet and north of a line from Joliet to Pittsfield. Here borer development is about normal, while corn development is slightly below normal south of Highway 6. The result is fewer borers and less damage. With warm nights, egg-laying should peak in about 10 days in this area. However, in the northern section (north of Highway 6), borer development may be slightly slower than normal, but corn development is about normal. Here more borers will survive and, peak egg-laying will occur in about two weeks.

Cool nights and windy weather would postpone egg-laying and increase the damage potential in the threatened areas.

Watch carefully for borers in the more advanced fields of corn during the next two or three weeks. To decide whether to use insecticides, measure the tassel ratio of the field and count the percent of plants with recent whorl feeding. To determine the tassel ratio, measure the height of the plant with leaves extended; split the stalk open and measure from the tip of the developing tassel to the base of the plant. Divide the tassel height by the plant height, and multiply by 100. This figure is the tassel ratio. If the tassel ratio is at least 35 (preferably 40-45) and at least 75 percent of the plants show recent whorl leaf feeding, then treatment is justified. Use 1 pound of DDT or 1 1/2 to 2 pounds of carbaryl (Sevin) per acre as granules. For spraying, use 1 1/2 pounds of DDT per acre, and direct the spray to the upper third of the plant. Aerial applications should be granules, not sprays or dusts. Follow the label precautions in harvesting and feeding treated corn.

Black cutworms and wireworms continued to damage corn. Small, half-grown cutworms will feed for several more days; they can still be found along with larger sizes that have about finished feeding.

If small worms are still plentiful and you feel that insecticides are justified, use 1/2 pound of dieldrin or 3 pounds of toxaphene per acre as a spray. Direct the spray into the soil at the base of the plant. Use as much water per acre as possible, and cultivate immediately to cover the insecticide.

If replanting becomes necessary because of wireworms, either leave the old stand and straddle the rows when replanting or, if disking up the old stand, broadcast aldrin or heptachlor at 1 1/2 pounds per acre before disking or use 1 pound per acre as a row application during planting. Where replanting, select a hybrid that will mature before frost.

Armyworms are now in occasional fields of oats, wheat, rye and grasses in some areas of northern Illinois. They are in fields with the most luxuriant growth and may be found in greatest numbers in spots of lodged grain. Be sure to get an average count that represents the field, not just a small spot in the field. Carefully examine the plants, the debris on the soil and the soil crevices. You should find six or more worms per linear foot of drill row to justify the expense of treating. If there are fewer than six per linear foot, treatment is warranted only if the worms are cutting off the heads of wheat.

If insecticides are needed, apply dieldrin, 1/8 to 1/4 pound per acre, or toxaphene, 1 1/2 pounds per acre. Allow one week to elapse between treatment and harvest of the grain for wheat and rye, but allow 14 days when toxaphene is used on barley. Do not use the straw for livestock feed.

For grass pastures and hay crops, use carbaryl (Sevin), 1 1/2 pounds per acre, or methoxychlor, two pounds per acre. Methoxychlor does not kill the armyworms, but it does prevent further feeding. Allow seven days between treatment and harvest or pasturing by livestock when methoxychlor is used.

Do not contaminate fish-bearing waters with toxaphene or dieldrin. Avoid drift of toxaphene or dieldrin onto pasture or hay used for dairy cattle or animals fattening for slaughter. Toxaphene is preferable to dieldrin for use in such cases.

Armyworm adults are brown, heavy-bodied moths that are attracted to lights. Soon they will be flying northward in great numbers. In three or four weeks they may deposit eggs in northern Illinois in cornfields with heavy growths of grassy weeds, in roadsides and in fields of heavy grass stands, as reserve acres.

Clover root curculio have been injuring soybeans that followed clover plow-down. These small gray to light brown snout beetles eat crescent-shaped notches in the leaves and gouge holes in the stem above ground as well as below. They feed mostly at night and are difficult to find during the day. To control curculio on soybeans, apply 1 1/2 pounds of DDT per acre. Apply only if plant loss is apparently going to be severe.

Potato leafhoppers are tiny green, wedge-shaped insects that suck sap from alfalfa plants. Second-growth alfalfa is commonly affected, causing it to turn yellow to purple and appear stunted; this damage lowers both the quality and the quantity of the hay. Populations are highest north of a line from St. Louis to Paris. Observe fields carefully when the new growth is 4 to 6 inches high. If this pest is abundant, apply 1 pound of methoxychlor or carbaryl. Allow one week to elapse between application of methoxychlor and harvest or pasturing. There is no waiting period when using carbaryl.

Barn fly control programs should be started this week. Follow these three steps: (1) Practice good sanitation; clean fly-breeding areas as often as is practical. (2) Apply a barn spray material, such as dimethoate, diazinon or ronnel, to the point of runoff on ceilings and walls of all livestock buildings except poultry houses. Use only ronnel in poultry houses. (3) Supplement the spray application with spray bait applications, using the same insecticide with corn sirup and water (2-1 ratio). Other insecticide baits may be used to good advantage as well.

Stored-grain insects are waiting for wheat harvest, which is just around the corner. Prevent damage from these insects by sweeping up and cleaning out all old grain and other debris from inside and around the bin. Clean harvesting equipment as well. Then spray all inside bin surfaces to the point of runoff with either 1.5 percent premium-grade malathion or 2.5 percent methoxychlor. Also treat the wheat with a dust or liquid form of premium-grade malathion. This program will insure insect-free wheat for a year or more.

Bagworms have hatched in southern and central Illinois, and treatment time is here. In the northern section hatching will be completed within the next two weeks, and treatments should be made the last week in June. Bagworms, like most other insects, are easier to kill when small. Use lead arsenate, malathion, carbaryl or toxaphene. Follow label directions for mixing and proper use.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This will not only insure personal safety but will also eliminate residue hazards.

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Special to farm advisers:

Many times during the past few years we have complimented the Food and Drug Administration on their excellent job of food inspection and food seizures--a protective measure that insured Americans of a wholesome and safe diet. We have called to your attention food seizures due to illegal pesticide residues, but we have commonly failed to place them in proper perspective with regard to seizures due to other causes. To do so, we quote figures from the May 1964, FDA Report on Enforcement and Compliance, page 18. During May 1964, there were these seizures:

867,968 lb.	of food seized and charged with contamination, spoilage and unsanitary handling.
115,022 lb.	of food seized for economic violations.
110 lb.	of food seized for illegal pesticide residues.
983,100 lb.	of food total seizure.

These data confirm our belief that the FDA is doing a detailed and fine job.

HBP:cm
6/11/64

FOR IMMEDIATE RELEASE June 19, 1964

INSECT SURVEY BULLETIN NO. 10

This is the tenth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey, and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borer pupation is complete and moth emergence is nearly complete throughout Illinois, with the possible exception of the northernmost tier of counties. The overall situation is difficult to diagnose, since we have been unable to assess the effect of recent rains on corn borer moth population. Also, cool, rainy nights discouraged egg-laying. Warm, calm nights would speed it up.

In general, egg counts were extremely low this week on the east side of the state, slightly higher in the middle section, and highest in the west. Egg-laying is nearly complete in the central and western parts of the state south of Route 9, but will continue for almost two weeks north of Route 9. It appears that the week of June 22 will be the critical time for decisions about treatment in the area west of Route 51 between Routes 9 and 6, and the week of June 29 will be critical in the area north of Route 6 and west of Route 47. It is doubtful that other areas will have enough borers to warrant insecticide use.

To decide whether to use insecticides, measure the tassel ratio of the field and count the percent of plants with recent whorl feeding. To determine the tassel ratio, measure the height of the plant with leaves extended; split the stalk open and measure from the tip of the developing tassel to the base of the plant. Divide the tassel height by the plant height, and multiply by 100. This figure is the tassel ratio. If the tassel ratio is at least 35 (preferably 40-45) and at least 75 percent of the plants show recent whorl feeding, then treatment is justified. Use 1 pound of DDT or 1 1/2 to 2 pounds of carbaryl (Sevin) per acre as granules. For spraying, use 1 1/2 pounds of DDT per acre, and direct the spray to the upper third of the plant. Aerial applications should be granules, not sprays or dusts. Follow the label precautions in harvesting and feeding treated corn. Phorate (Thimet) and diazinon as granules also have label approval for corn borer control.

Armyworms are still found in occasional fields of grain or grass in northern Illinois. Check thick stands of oats carefully for the next two weeks. In central Illinois worms have all pupated and the moths are abundant and are attracted to lights. Ordinarily the moths migrate northward and there is not a second damaging generation in an area in one year.

This week we have had questions about possible drift of dieldrin spray onto the edges of hay crops to be fed to dairy cattle. If there is any question about drift, it is safest not to use the hay from that area of the field for dairy cattle or livestock fattening for slaughter. The next cutting will be all right.

Grasshoppers are hatching, and small ones can be found in fence rows, ditch banks, and similar areas. It is not time to use insecticides, since hatch has just started and will continue for two weeks or more.

Chinch bugs can be found occasionally in thin stands of small grains. Examine dead or dying spots for small red or black chinch bugs. If migration starts, apply 1/2 pound dieldrin per acre as a barrier strip two rods into the edge of the grain field and into the corn as far as bugs are wilting corn. Do not harvest the grain for one week after application.

Clover root curculios have been injuring soybeans that followed red or sweet clover or were adjacent to such crops. This damage occurs on marginal rows or in spots in the field. These small gray to light brown snout beetles eat the leaves and gouge holes in the stem above ground as well as below. They feed mostly at night and are difficult to find during the day. To control curculio on soybeans, apply 1 1/2 pounds of DDT per acre or 1/2 pound of dieldrin. Apply only if plant loss is apparently going to be severe.

Thrips can be found in the whorl of many corn plants in western and southern Illinois. Their feeding appears as tiny streaks of white mottling on the leaves. When thrips are abundant, the damage may give the field a wilted silvery appearance. The plants rapidly outgrow the damage with the first rain. If control is necessary, 1 pound of DDT per acre banded over the row will be satisfactory. Toxaphene, malathion, and several other insecticides should also provide control.

Face flies increased this past week. This increase is somewhat later than in previous years and may be a good omen. However, dairymen should begin to spray their cattle with 2% ciodrin in oil. For beef cattle on pasture, apply ciodrin with an automatic sprayer, or at least provide a backrubber with 5% toxaphene. Allow 28 days to elapse between treatment of beef cattle with toxaphene and slaughter.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This will not only insure personal safety, but will also eliminate insecticide residue hazards.

For a list of general precautions to use when handling and applying pesticides, write to 280 Natural Resources Building, University of Illinois, Urbana, Illinois, for "Safe Use of Pesticides."

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In 7

FOR IMMEDIATE RELEASE

June 26, 1964

INSECT SURVEY BULLETIN NO. 11

This is the eleventh in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borer is less important now than it was a week ago. The storm of the past week killed many moths; only those in highly protected spots were able to survive. Also, almost half of the corn is now large enough to attract moths; the few moths that remain will scatter their eggs and not concentrate in any one field. Some eggs will still be deposited during the next two weeks, but only an occasional field of corn may warrant treatment. This statement applies only to field corn. Sweet corn growers should follow the usual practice of examining early fields and treating if necessary.

Grasshoppers are still hatching, but most of those that had hatched before the heavy rains were killed. The present ones are new and are not plentiful enough to cause concern. We will observe the continued hatching of this pest for the next two weeks.

Chinch bugs are present in occasional thin stands of wheat and oats in central and eastern Illinois. Recently hatched nymphs are starting to suck sap from the plants. They are bright red at first but turn dark red to black as they mature. Examine thin areas in small grains to see whether bugs are present in dead or dying spots. If there is little or no grass, the bugs will migrate as the grain dries. Grassy weeds like foxtail, if sufficiently abundant in small grains, may supply food for bugs and no migrations will occur.

If chinch bugs begin to migrate from the grain to corn, apply 1/2 pound of actual dieldrin per acre as a border two rods wide in the grain field and into the cornfield as far as the bugs are severe. Do not harvest small grains for one week after treatment. Do not feed the straw to livestock.

Small nymphs and adults have been observed in cornfields. These chinch bugs will survive only if there is grass in the corn row or a grass crop was plowed down early this spring.

Common stalk borer have been tunneling in the whorl leaves of occasional corn plants and stalks of oats. These striped worms are whitish-brown with a distinct purple to black band around the middle of their bodies. The unfolding leaves of corn have irregular holes from worm feeding, while the heads of oats turn white prematurely. Damage occurs in plants along fence rows, ditch banks and grass waterways or where there was a weed problem the previous year. Injury is little consequence, and by the time the worms are found it is too late for chemicals to be effective. Keep weeds under control in August and September to help reduce the problem for next year.

Mimosa webworm feeding is evident on mimosa and honey locust as far north as central Illinois. The small, pale gray to brown larvae web the leaves together to form a nest in which they skeletonize the leaflets. Damaged leaflets become dry and brown. A second generation of worms will occur in August.

For control, mix a spray containing 1 tablespoon of lead arsenate or 2 teaspoons of 50-57% malathion or 60% toxaphene emulsion concentrate per gallon of water. A spray containing a mixture of lead arsenate and malathion at the above rates has proved especially effective.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This will not only insure personal safety, but will also eliminate insecticide residue hazards.

For a list of general precautions to use when handling and applying pesticides, write to 280 Natural Resources Building, University of Illinois, Urbana, Illinois, for "Safe Use of Pesticides."

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This weekly report was prepared by H. B. Petty, Steve Moore, and C. E. White, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

6/26/64

FOR IMMEDIATE RELEASE July 2, 1964

INSECT SURVEY BULLETIN NO. 12

This is the twelfth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borers can be found in small numbers in many cornfields and occasional moths are still hiding during the day in weedy fence rows and similar protected areas. Although a few egg masses are still being deposited, for all practical purposes egg-laying should be complete this week. Survival of the borers now present and those yet to hatch will be high, but only an occasional field of field corn and early sweet corn will have enough borers to justify control measures in western and northwestern Illinois.

Grasshoppers continue to hatch, but no high concentrations were observed this week. Check fence rows, ditch banks and sod areas for newly hatched 'hoppers.

Chinch bugs are in an occasional field of thin grain in central and eastern Illinois. If they begin to migrate from the grain to corn, apply 1/2 pound of actual dieldrin per acre as a border two rods wide in the grain field and into the cornfield as far as the bugs are severe. Do not harvest small grains for one week after treatment. Do not feed the straw to livestock.

Corn earworm populations are very high in early sweet corn in the south third of Illinois. Apparently there must have been a heavy migration of moths into the state and also favorable overwintering of native worms. This early infestation indicates that the next generation in sweet corn in August may be quite large. Sweet corn growers who have corn to be harvested in August and September should be alert to this possibility.

Sod webworms in small numbers may soon appear in lawns. In most instances use of insecticides is not warranted at this time, but in particular cases some people may want the ultimate in lawn protection. In these cases apply carbaryl (Sevin) or diazinon now and again in mid-August.

Alfalfa weevils are now in 29 Illinois counties. All larvae have pupated, and the new adults of this year's generation have emerged, but they are very difficult to find. There was no damage to alfalfa this year.

Japanese beetles have begun to emerge at Sheldon, and peak activity will occur this month.

Scavenger beetles are black, hard-shelled, shiny beetles with four orange to white spots on their wings. These pests, commonly called picnic beetles, are usually most noticeable around food being served at picnics and similar activities. Also they are appearing around garbage containers and are often thick on screen doors and kitchen windows. They are also attracted to overripe or injured vegetables and fruits in home gardens. Keep vegetables and fruits picked, and dispose of overripe or damaged produce. Use of malathion or diazinon will give a degree of control on fruits and vegetables. Check the label for application directions for each crop.

If you want to eat on an unscreened patio or on the lawn, it will help if you apply malathion or diazinon on shrubbery in the morning. The odor will dissipate by late afternoon. Pyrethrins may also be used for control.

European elm scales are now in the crawler stage on elms in central Illinois. For those who have had problems with this pest, now is the time to apply malathion. Use 1 pound of 25% wettable powder or 6 fluid ounces of emulsion concentrate in 25 gallons of water.

Rat-tailed maggots are abundant in areas where there is animal waste. These maggots are blunt-bodied and have a long tube on the end of the body. The adult is a flower fly or sweat bee. No control is recommended.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This will not only insure personal safety, but will also eliminate insecticide residue hazards.

For a list of general precautions to use when handling and applying pesticides, write to 280 Natural Resources Building, University of Illinois, Urbana, Illinois, for "Safe Use of Pesticides."

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HBP:SM:CEW:ml
7/2/64

FOR IMMEDIATE RELEASE July 10, 1964

INSECT SURVEY BULLETIN NO. 13

This is the thirteenth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Fall armyworms and yellow-striped armyworms, not true armyworms, are present in small numbers in late-planted corn. The fall armyworm is gray to brown, while the yellow-striped armyworm is velvety brown to black with a prominent yellow stripe along both sides of the back. These worms feed in the whorl, and the plants develop a ragged appearance as leaves emerge. There are usually several infested plants in a row, since the worms move out in both directions from the plant on which the eggs are hatched. Populations of these insects will probably continue to increase from now until September in late-maturing corn.

If 20 percent or more of the plants are infested, treatment may be profitable. Use 1 1/2 pounds of DDT, carbaryl (Sevin) or toxaphene per acre. Granular insecticides will penetrate the whorl more readily than sprays and provide better control. Do not use DDT or toxaphene if the corn is to be used as ensilage or stover for dairy cattle or animals being finished for slaughter.

Two-spotted mites are damaging fields of soybeans that border clover fields. When the clover is cut for hay, the mites move into the soybeans and begin feeding. The damage appears as a brown speckling of the leaves. When beans are severely infested, webbing is noticeable. However, the tiny mites, which like the undersides of the leaves, are difficult to see unless the leaves are jarred over a white paper or cloth. Dry weather favors mite development, while moisture discourages mite build-up.

Control measures, in general, have been inadequate. If damage is severe, try a malathion spray at 1 pound per acre in as much water as possible, directed at the undersides of the leaves from drop nozzles. Do not harvest as forage or feed until three days after treatment.

Potato leafhoppers are causing yellowing of second-cutting alfalfa. These tiny green, wedge-shaped insects suck sap from alfalfa plants, causing yellowing or purpling and stunting. The damage lowers both quality and quantity of the hay. If this pest is abundant or yellowing is occurring, apply 1 pound of methoxychlor or carbaryl per acre. Allow one week to elapse between application of methoxychlor and harvesting or pasturing. There is no waiting period when carbaryl is used.

Note to Sweet Corn Producers

Corn sap beetles are now appearing in corn. They are feeding on fermenting pollen and in earworm and corn borer galleries. Growers of market sweet corn and canning sweet corn should watch for these beetles and should treat if they are abundant. Treatment should be applied before the beetles lay eggs in the silk channels. For control, use diazinon or malathion and observe label precautions.

Corn earworm moths are being caught daily in moderate numbers in the light trap at Urbana.

Horn flies and stable flies are abundant on cattle, and control programs should begin immediately. Face flies have been slow to build up this year, but populations are expected to increase throughout the remainder of the summer, particularly in the northern two-thirds of the state.

To control flies on pastured dairy cattle, apply 1 to 2 ounces per animal of the oil form of 2.0% ciodrin, 1.0% DDVP or 0.1% pyrethrin as needed. Pay particular attention to the legs and undersides when spraying.

For pastured beef cattle, apply a 0.5% toxaphene waterbase spray at 1 to 2 quarts per animal every three weeks. Allow 28 days to elapse between treatment with toxaphene and slaughter.

House flies may soon become a nuisance now that most areas have had some moisture. Follow these three steps: (1) Practice good sanitation; clean out fly-breeding areas, such as manure, rotting straw, wet hay, and feed, as often as is practical. (2) Apply a barn spray material, such as dimethoate (Cygon), diazinon, or ronnel (Korlan) to runoff on ceilings and walls of all livestock buildings except poultry houses. Use only ronnel in poultry houses. (3) Apply a supplementary spray bait, using the same insecticide mixed with corn sirup and water (2:1 ratio). Other insecticide baits may be used to good advantage as well.

This program will not only control house flies, but will also reduce stable flies.

Picnic beetles continue to emerge and are a nuisance in many areas. These beetles are about 1/4 inch long and are shiny black with four yellow spots on their backs. They are attracted to the odor of food and get into food at picnics and cookouts. They swarm onto overripe or injured fruits and vegetables in gardens.

Keep vegetables and berry patches free of overripe and rotting fruits and vegetables. Reducing injury to fruits and vegetables from other insects will help to reduce the number of picnic beetles. Sprays of malathion, diazinon or carbaryl help to control them, but it may be necessary to repeat the applications as beetles migrate into the area. Check application information on the label for each crop on which you intend to use the insecticide.

A 0.1% pyrethrin spray can be used for quick knockdown of beetles at picnics or cookouts.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This will not only insure personal safety, but will also eliminate insecticide residue hazards.

For a list of general precautions to use when handling and applying pesticides, write to 280 Natural Resources Building, University of Illinois, Urbana, Illinois, for "Safe Use of Pesticides."

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This weekly report was prepared by H. B. Petty, Steve Moore and C. E. White, Illinois Agricultural Extension Service and Illinois Natural History Survey, in cooperation with the USDA Agricultural Research Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

NOT FOR PUBLICATION - Special Note to Farm Advisers:

Salt, mineral supplements and other feeds containing either phenothiazine or ronnel are not recommended for controlling face flies or stable flies even though they may give good control of horn flies.

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FOR IMMEDIATE RELEASE July 17, 1964

INSECT SURVEY BULLETIN NO. 14

This is the fourteenth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Armyworms have been feeding in the whorls of late corn in northern Illinois this past week. Although the damage resembles that of fall armyworms and corn earworms, these are the true armyworm. In some fields, they are feeding extensively on foxtail and other grassy weeds, and this week they may move to the corn plants. Armyworm parasites seem to be present but only in small numbers.

Before using insecticides for control, evaluate the potential damage. Remember that a corn plant recuperates rapidly from leaf damage unless the heart or growing point of the plant is damaged. We do not know whether armyworms will feed on fresh silks.

Do not apply toxaphene or dieldrin to ensilage corn. Also, be extremely cautious when applying insecticides if dairy pastures or hay crops are adjacent or close by. Amounts of these insecticides as low as 1 part per billion in milk can be detected easily by chemical tests. This is almost too minute an amount to imagine.

For corn as grain only, apply 1 1/2 pounds of toxaphene per acre or 1/8 to a maximum of 1/4 pound of dieldrin or 1 1/2 pounds of Sevin. For ensilage corn, apply 1 1/2 pounds of Sevin. If drift from corn to pasture or hay crops is likely, use Sevin.

There is no time limit between use of Sevin and harvest. There is no limit between use of toxaphene and corn grain harvest. But do not apply dieldrin within 60 days of grain harvest.

Corn borers are now changing to the pupal stage throughout Illinois. This means that some moths of another generation will be flying and depositing eggs by the week of July 20. In some past years, we have had three generations of borers in the southern half of Illinois. This year's early pupation might mean a partial to complete third generation throughout Illinois.

Fall armyworms are leaving corn plants and pupating in the soil. Another generation will appear in late corn during August.

Corn earworms have been more abundant in field corn in the southern half of Illinois this year than for many years. Early in the summer, when moths cannot find fresh silks, they deposit eggs in the whorl of corn plants as they did this year. The worms hatching from these eggs have now matured and are pupating. Earworm moths will emerge from these pupae during early August, and moth flight will continue until frost. Tomatoes, green snapbeans and sweet corn will be the primary targets, and late field corn also will be attacked to some extent. How severe this problem will be we cannot accurately predict now, but the potential is serious.

Green June beetles are large, clumsy beetles that make a loud buzzing sound when flying. Ordinarily no control measures are required, since their feeding is not serious unless they concentrate on fruits, such as peaches.

Face flies and stable flies were more numerous on cattle in northern Illinois this week than they have been all summer.

We have been asked to clarify our dairy cattle spray recommendation. In 1963 we found that 2% Ciodrin in oil, applied four to five times a week, provided about 90 percent control of face flies and stable flies and 100 percent control of horn flies on dairy cattle on pasture during the day. A spray of 1% Ciodrin and 1/4% DDVP provided 100 percent control of horn flies, but only slightly over 50 percent control of face flies and stable flies when the cattle were on pasture. For this reason we recommended that 2% Ciodrin in oil, although more costly than other sprays, would provide much better protection for cattle during the pasture hours.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This will not only insure personal safety, but will also eliminate insecticide residue hazards.

For a list of general precautions to use when handling and applying pesticides, write to 280 Natural Resources Building, University of Illinois, Urbana, Illinois, for "Safe Use of Pesticides."

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Special Note to Farm Advisers

You may be asked to describe 1 part per billion. Roughly, it is one fluid ounce in 7,812,500 gallons of liquid.

May Food Seizures by FDA (May-June 1964 FDA Report on Enforcement and Compliance)

45 food seizures - 2 from pesticides

1,562,779 pounds of food seized because of contamination, spoilage, or unsanitary handling. The contamination was caused by rodents, birds, fruit fly maggots and eggs, *E. coli*, parasitic copepods, and decomposition.

43,815 pounds seized because of economic violations.

410,140 pounds seized because of contamination with poisonous and deleterious substances. Alfalfa hay was seized in the West because of dieldrin residue, wheat in the Midwest because of mercury seed treatment contamination, frozen crab meat because of ammonia, and dried eggs because of salmonella microorganisms.

FOR IMMEDIATE RELEASE July 24, 1964

INSECT SURVEY BULLETIN NO. 15

This is the fifteenth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Armyworms have been the topic of conversation this week in many areas of northern Illinois. There were reports of infestations from the Melvin-Sibley area in Ford county on the east to Monmouth on the west and north to the Wisconsin border. Most of the infestations occurred in the eastern half of the state, however. Except for the northern tier of counties, the armyworm problem should subside this week, and by August 1 a worm will be hard to find.

The main questions this week concerned how mature the worms are, how much longer they will feed, how abundant their natural enemies are, whether there will be another generation, and what kind of weather favors the armyworm.

Fat armyworms, 1-1/4 to 1-1/2 inches long, have finished feeding. They will burrow into the ground and pupate at any moment. Armyworms 3/4 inch to an inch long will feed for three to five more days.

Tiny worms--1/8 to 1/2 inch long--ordinarily feed for two weeks, but natural enemies are building up in many areas and these small worms will probably be killed by disease or parasites before they can damage plants. Parasites, both wasps and flies, and a virus disease were beginning to kill a few large armyworms this week.

Brown heavy-bodied armyworm moths will begin to emerge in about two weeks. Some will remain and deposit eggs. The worms that hatch will die from parasitism or from disease. These parasites and the virus disease prevent armyworm outbreaks in successive generations in the same area and the same year. Some moths will also migrate northward out of Illinois.

These armyworms have been feeding on corn, grassy weeds, oats, and other grass crops. In some instances they have been feeding heavily on corn silks. Extensive silk feeding during pollination could be serious. If the entire plants are stripped before the ears are filled out, yields could be decreased. If only the lower leaves are stripped, the damage will not be serious. Armyworms will not eat good-sized legume plants or soybeans but will eat small legume seedlings. Cool, damp weather favors armyworms, but humid weather is unfavorable.

Time for maximum benefit from treatment is almost past. Therefore each field must be judged on its own merits--size of the worms, type and location of feeding, and extent of parasitism and disease incidence should be determined before treatment is even considered.

Do not panic because you find some armyworms. It takes loads of armyworms to do serious damage. Also, in many instances grassy weeds like foxtail, now present in fields, will feed the worms until they mature.

If after careful examination you decide to treat with an insecticide, 1-1/2 lb. of Sevin per acre, or 1/8 to 1/4 lb. of dieldrin, or 1-1/2 lb. of toxaphene will kill the worms. But absolutely do not use dieldrin or toxaphene on ensilage corn. Use Sevin in these cases. If there is any possibility of drift of either dieldrin or toxaphene onto dairy hay or pasture, use Sevin.

If you apply dieldrin to corn for grain, do not harvest for 60 days. There is no time limit between toxaphene application and corn grain harvest. There is no time limit between application and forage harvest when using Sevin.

Pupation of first-generation corn borers is well under way, and moth emergence and egg-laying for a second generation have started. We also found some eggs hatching this week. Although this early egg-laying is of little importance to the field corn grower, it is important to the commercial grower of sweet corn. Canners, particularly in central and north-central Illinois, should begin a control program now. Protect corn that is 10 days or more from harvest to avoid any possibility of worm contamination of the final product.

Grasshoppers are concentrated in some spots in fence rows and similar areas. Sevin, malathion, diazinon, toxaphene, or dieldrin applied to these concentrations of hoppers will control them. However, read the label to determine whether the insecticide can be used on a particular crop and the interval required between application and harvest.

Northern corn rootworm adults have been emerging for the past two weeks. These green beetles concentrate on the fresh silks. But unless there are many on each silk and they are cutting pollinating silks severely, control of adults is not profitable.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This will not only insure personal safety, but will also eliminate insecticide residue hazards.

For a list of general precautions to use when handling and applying pesticides, write to 280 Natural Resources Building, University of Illinois, Urbana, Illinois, for "Safe Use of Pesticides."

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NOT FOR PUBLICATION - Special Note to Farm Advisers:

A news release from Wisconsin this week reported that five dairy farmers were "off the market" because of DDT contamination of milk produced on their farms. In three cases the cattle were fed DDT-contaminated ensilage made from last year's sweet corn. The other two cases are still under investigation, but DDT-contaminated fly spray is being checked as a possibility.

Most Illinois canners have been and are using Sevin. This use is legal and the ensilage can be fed. Many vegetable growers use DDT, but then the ensilage and fodder can not be used. You, as well as your dairymen, should be aware of the possibility of contamination of sweet corn fodder and ensilage and guard against it.

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FOR IMMEDIATE RELEASE July 31, 1964

INSECT SURVEY BULLETIN NO. 16

This is the sixteenth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borer: From 40 to 75 percent of the first-generation borers have now pupated, and 2 percent of them have already emerged as moths. These moths are beginning to deposit eggs on late corn. Pupation and emergence, although slightly later than last year, are earlier than in some other years. Also first-generation corn borer populations this year were about half as great as those of last year.

Fall armyworms, varying in size from newly hatched to mature, are abundant in some late fields of both sweet and field corn in south-central and southern Illinois. Control measures in field corn are questionable, as the corn will probably grow away from the damage. Furthermore, by the time the infestation is found, the worms have usually burrowed deep into the whorl, where it is extremely difficult to reach them with any insecticide. In sweet corn, 1 1/2 pounds of DDT or Sevin per acre will control the small worms when infestations are discovered early. After the worms are large, there is no use to attempt control unless they are migrating from the tassel to the ear.

Do not use DDT on corn to be fed as ensilage, fodder or stover.

True armyworms have matured rapidly, and most of them have pupated. The few that remain will not be of major concern.

Corn earworm control information is being requested by seed producers, since earworms can cut across the tops of the kernels, making them unfit for seed. This damage may occur if the earworm infestation is as intense as is expected. Use DDT or Sevin as earworm sprays when eggs are found on silks, usually on late corn. Use Sevin if the corn is to be used for ensilage, fodder or stover.

Corn leaf aphids are plentiful in some fields. As is true of earworm, seedsmen are the ones most interested in aphid control, but some cash-grain farmers are also interested. Definite information on damage is meager. We know that a severely infested plant may be barren and that heavy infestations can cause light-weight ears. But we can not give a good rule of thumb on how large the infestation should be before treatment will be profitable.

The tendency toward barrenness varies greatly and is influenced by hybrid, planting rate, moisture, fertility and perhaps other growth factors. Some studies have shown that an average of 40 percent of the plants severely infested by aphids were barren. That is, if 10 of 100 plants in a field are literally loaded with aphids, four of them, or 4 percent, will be barren. However, this figure varies tremendously with different hybrids. In counting infestations, do not include sucker plants, as they are commonly infested.

When control is absolutely necessary, 1 pound of malathion per acre is recommended. Treatment may be applied to within five days of harvest or use of corn as forage. Malathion can be used on field or sweet corn. Phorate (Thimet) can be used in granular form in field corn but should be applied before tasseling. Parathion can be used to within 12 days of harvesting field corn for grain or cutting for forage. However, malathion is the only material recommended for general use. The other materials should be applied only by commercial applicators and should not be applied to seed corn that will be detasseled by hand.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This will not only insure personal safety, but will also eliminate insecticide residue hazards.

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SPECIAL NOTE TO FARM ADVISERS:

USDA label approval for use of dieldrin on alfalfa, clover, Irish potatoes and sugar beets has been removed. Label approval for use of aldrin on alfalfa, clover and sweet clover in the two-leaf stage have also been removed. If you have followed the recommendations in our Illinois NHE condensed insecticide recommendations, you will know that we deleted these recommendations one or more years ago except for dieldrin as a soil treatment for Irish potatoes. Please correct your copies of NHE-94, Insects on Potatoes. Dieldrin can no longer be used as a pre-planting soil treatment in potato fields.

Label approval for endrin on apples or pears was also removed.

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FOR IMMEDIATE RELEASE August 7, 1964

INSECT SURVEY BULLETIN NO. 17

This is the seventeenth in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

European corn borer pupation of first generation varies from 75 to 85 percent, and 30 to 50 percent of the moths have emerged. Eggs are being deposited in late corn. In most areas the situation appears to be less serious than last year. However, in a few areas some sweet corn fields have higher egg mass counts than they have had for the past several years.

Corn earworm moth flight is just beginning in central and northern Illinois, but in southern and south-central areas egg-laying has begun. At present there is an abundance of fresh and recently pollinated silks suitable for egg-laying. Consequently the eggs are not being concentrated in a few fields but are being scattered over many fields. Both moth flight and egg-laying are expected to increase during the next several weeks.

Corn leaf aphids are still numerous, but lady beetles and flower fly larvae, both of which eat aphids, are becoming more abundant. Some parasitism of aphids has also occurred.

Soybean fields have infestations of green cloverworms, bean leaf beetles, webworms and grasshoppers. All four are present in some fields.

Green cloverworms have white pin stripes running lengthwise of their bodies. In addition, the worms are very active and flip about as though on a steel spring. As a rule this pest feeds only on leaves and rarely on pods or blossoms. There should be at least six worms per linear foot of row to warrant use of an insecticide for control. This is a minimum figure.

To control, apply 1 1/2 pounds of toxaphene per acre, but do not use foliage as feed for dairy animals or livestock being fattened for slaughter. There is no time limitation on combining of beans. Do not apply toxaphene adjacent to fish-bearing waters or fields of dairy hay or pasture.

Bean leaf beetles feed on leaves, pods and blossoms of beans. These beetles are yellow, green or red with up to four black spots on their back. At the slightest disturbance they drop to the ground and "play possum." Control is not recommended unless defoliation is severe or pods and blossoms are being eaten. Then an application of toxaphene will control them.

Grasshoppers are now in the margins of soybean fields. As they grow, their feeding will become noticeable. Also there are some still in fence rows, ditch banks and similar areas, and with continued dry weather they may migrate to beans. Grasshoppers also eat leaves, pods and blossoms. They are easily controlled with toxaphene.

Garden webworms, greenish spotted worms, are damaging late soybeans in some areas. They strip the leaves, and the webbing that ties the leaves together is easily seen. In some cases it is difficult to penetrate the webbing.

Toxaphene, 1 1/2 pounds per acre, will usually control webworms provided the spray penetrates the webbing.

These webworms are also feeding on recently seeded alfalfa. If the alfalfa is not to be used for hay, toxaphene may be used. If it is to be used for hay or pasture this fall, apply 1 1/2 pounds of methoxychlor per acre, but allow one week to elapse between application and harvest.

Face fly populations are increasing and are the highest they have been so far this year. Ciodrin oil-base sprays should be applied for control where cattle are handled daily. For beef cattle, use toxaphene in a backrubber. Do not apply toxaphene within 28 days of slaughter.

Beet leafhoppers were found for the first time on horseradish in the East St. Louis area. We suggest applying malathion, Sevin or DDT to help prevent spread of brittle root.

Sod webworm moth flight reached its peak this week in some areas of central and eastern Illinois. Moths have been depositing eggs and will continue for another few weeks. They will deposit them in the most luxuriant lawns and will avoid dried-out, brown lawns. If you suspect moths of depositing eggs in your lawn, apply control measures this week. Use diazinon or Sevin as granules or sprays.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This will not only insure personal safety, but will also eliminate insecticide residue hazards.

For a list of general precautions to use when handling and applying pesticides, write to 280 Natural Resources Building, University of Illinois, Urbana, Illinois, for "Safe Use of Pesticides."

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SPECIAL NOTE TO FARM ADVISERS

We are again being asked about lindane vaporizers as a method of controlling insects. We do not recommend them. We consider them ineffective and a possible health hazard in the home. Some of them have had USDA label approval under protest and may soon have the label withdrawn.

We are rerunning Insecticide Dealers' Newsletter, Vol. III, No. 6, November 15, 1963, entitled "Health Hazards of Electrical Vaporizing Devices for Insecticides." A copy is being sent to you.

I-7

FOR IMMEDIATE RELEASE August 14, 1964

FINAL ISSUE

This is the eighteenth and final issue in a series of weekly bulletins on the general insect situation in Illinois (fruit insects excepted), prepared by entomologists of the University of Illinois College of Agriculture, Illinois Natural History Survey and cooperating agencies. It is designed to forewarn people in Illinois of impending changes in insect activity and to suggest abbreviated control measures. These reports indicate only general trends. Each individual should check his own fields to determine local conditions.

Corn borer moth emergence is complete south of Highway 6 and is rapidly nearing completion north of this line. In the western section between Highways 9 and 6, where borer development is slightly ahead of the northern section, egg counts averaged 100 to 500 per 100 plants in late-maturing field corn. Approximately 30 to 75 percent of these eggs have hatched. Egg-laying will continue at a decreasing rate in this area for the next 10 days to two weeks.

North of Highway 6, egg-laying has just begun, and counts range from 20 to 200 per 100 plants in late-maturing field corn. Egg hatch is just beginning. Egg-laying should continue for another two to three weeks.

The potentially threatened area lies north of Highway 9, with the heaviest populations in the western and northwestern sections. It is the late-maturing fields in which the moths will concentrate their egg-laying. However, check early- and medium-maturing fields, since emerging moths lay some eggs here before moving into the late corn.

If there are 100 or more egg masses per 100 plants, treatment will be profitable. Apply 1 pound of actual DDT or 1-1/2 to 2 pounds of actual carbaryl (Sevin) per acre as granules. For spraying, use 1-1/2 pounds of actual DDT per acre, and direct the spray to cover the upper half of the corn plant, including the ear. Do not use DDT on corn to be fed as ensilage or stover. Aerial applications should be granules, not sprays or dusts. Phorate (Thimet) and diazinon as granules also have label approval for corn borer control.

Corn leaf aphids are being killed by disease, parasites and predators. Fields observed this week showed from 25 to 90 percent mortality of aphid populations. No insecticide treatments should be needed to control this pest.

Chinch bugs are reported in moderate to heavy numbers in such grasses as millet, sudan, sudax and others, as well as in occasional cornfields in central and eastern Illinois. These small bright to dark red insects are the second-generation nymphs. Some first-generation adults are also still present. There is no effective insecticide that is safe to use on grass crops destined for livestock forage. Normally by this time corn is sufficiently mature to withstand fairly large numbers without serious injury, but stress from drought could intensify the injury.

Soybeans are being attacked by bean leaf beetles, grasshoppers, green cloverworms and garden webworms, particularly in the west-southwestern, central and northern sections. Bean leaf beetles were observed feeding on blossoms in addition to leaves this week. No report of injury to pods has yet been received.

Treatment is not warranted unless the insects attack pods or blossoms or unless defoliation is severe. If treatment becomes necessary, use 1-1/2 pounds of toxaphene per acre, but do not use the foliage as feed for livestock. There is no time limitation on combining of beans. Do not apply toxaphene near fish-bearing waters or fields of dairy hay or pasture.

Sod webworms are now laying eggs in lawns, and egg-laying is expected to continue for some time. Successful control depends on detecting infestations early, when the worms are about 1/2 to 2/3 grown (1/2 inch long). It will be difficult to distinguish between brown spots caused by webworms and those caused by drought. Look for a gray worm with a dark brown head in the thatch of the lawn. The worms can usually be brought to the surface within 10 minutes by pouring a gallon of water containing 1/4 cup of detergent over a square-yard area. If one or more worms per square foot (9 per square yard) are present, then treatment will be justified.

Use carbaryl (Sevin) or diazinon as sprays or granules. Carbaryl should be used at 2 pounds of actual chemical per 1/4 acre (10,000 sq. ft.) and diazinon at 1/2 pound of actual chemical per 1/4 acre. Use at least 20 to 25 gallons of water per 1/4 acre when spraying. It would be advisable to wet the lawn before spraying, but do not water for at least three days after spraying. Repeat treatments may be needed if reinfestation occurs.

Mosquitoes have been troublesome even with the dry weather. To reduce the mosquito nuisance around your home, follow these suggestions: (1) Eliminate standing water such as accumulates in eave troughs, old tires, cans, children's toys, etc. (2) Spray the shrubbery and tall grass with 0.25% malathion. To mix, use 2 teaspoonfuls of 50-57% malathion emulsion concentrate per gallon of water. Repeat the application every two to three weeks if necessary. (3) Keep screening on all doors and windows in good repair. In addition, hang a plastic resin strip (2" x 10") containing 20% DDVP at the rate of one strip per 1000 cubic feet, or about one per room. These strips are effective for six to eight weeks. The DDVP vaporizes slowly and kills mosquitoes and flies. They are safe to use around children and pets. A 0.1% pyrethrin space spray or fog may be used in the house for quick knockdown in place of the DDVP resin strips. Repeat treatments will be needed with the spray. (4) When entering mosquito-infested areas, apply a repellent to the exposed parts of the body. The best mosquito repellent to use is DEET (diethyl toluamide).

Fleas are causing problems to returning vacationists. The adult fleas have developed from the worm stages present in dog or cat beds or resting areas. The hungry adult fleas usually spread throughout the entire house.

For control, treat areas where fleas occur with DDT or malathion as a dust or spray. Do not use DDT where cats are present. Malathion is safe for cats. Buy the special household preparation or pet spray of malathion, since regular grades of malathion have an odor that may be objectionable for a short time when used indoors.

Caution: Before applying insecticides, read the labels carefully and follow all precautions. This not only will insure personal safety, but will also eliminate insecticide residue hazards.

For a list of general precautions to use when handling and applying pesticides, write to 280 Natural Resources Building, University of Illinois, Urbana, Illinois, for "Safe Use of Pesticides."

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This weekly report was prepared by H. B. Petty, Steve Moore and Clarence E. White, Illinois Natural History Survey and Illinois College of Agriculture, in cooperation with the USDA Agricultural Service, Plant Pest Control Branch, from information gathered by entomologists and cooperators who send in weekly reports from their own localities.

NOT FOR PUBLICATION: Special Note to Seed Corn Producers

Several of you have expressed interest in corn earworm control. In the area south of Highway 6, moth flight and egg-laying are heavier than normal. The result could be substantial losses in fields of seed corn by harvest time.

If you are interested in seeing earworm eggs and hearing a discussion of earworm habits and control, you are invited to attend an informal, brief field meeting at the Libby, McNeill and Libby Plant in Morton, Illinois, on Tuesday, August 18. The meeting will start promptly at 10:00 a.m. at the field office on North Morton Street across from the main plant office. A short trip to the field will follow, with time for questions. Farm advisers also are welcome. I will see you there.

Steve Moore

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8/14/64